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EDUCATIONAL REVIEW

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A

PERSONALITY AND ACHIEVEMENT IN HIGHER EDUCATION PROFESSIONAL TRAINING

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ABSTRACT

This investigation is particularly concerned with study habits and personality characteristics associated with underachievement and failure in professional training at the higher educational level. Data is presented on these characteristics for medical, teaching and planning students. Significant differences between the groups in terms of study habits and personality characteristics are discussed. Of considerable importance, however, was the finding that the characteristics of underachievers in all three of these professional training courses showed a high degree of similarity. Difficulties are particularly likely to occur in all groups with students whose study habits are poor and where this is associated with either self conflict, social and inter-personal problems and anxiety, or with independent happy-go-lucky attitudes. The implications of this work for assisting students in training, and possibly for the selection of candidates, is briefly mentioned.

I. INTRODUCTION

THIS report is concerned with individual characteristics associated with attainment or progress in higher educational courses in professional training.

For a number of reasons the specific investigations are of potential doctors, teachers and planners, though there are obviously a large number of disciplines one could investigate in this respect. In the long-term, the research is relevant to several problems of higher education in selection, teaching methodology and for examining techniques as well as for individual student advice and counselling. More immediately, the findings presented here are pertinent to the 'handling' of students already in training.

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There has been increasing interest over the past 25 years in the scientific approach to the measurement of individual characteristics and their association with academic attainment. Reviews of this literature can be seen in the publications of Harris (1940), Eysenck (1947), Dale (1954), Kelsall (1961-3), Montgomery (1962), Dreyer 1963 and 1969), Ryle (1969), Miller (1970), Entwistle (1972) among others. The evidence increasingly suggests that academic success and failure are both associated with non-cognitive personality factors as well as with intellect and ability. One might well pose the question, "Academic attainment—is ability enough?" and this question may be even more relevant to University or higher educational professional or vocational courses such as Medicine, Teacher Training, Town Planning, Architecture, Applied Science and Engineering, not to mention my own subject, Applied Psychology.

One needs, however, to be concerned with underachievement as well as actual failure or withdrawal from University training in vocational courses. This is, in some ways, quite different from the problem usually discussed under student wastage, for it includes not only those students who fail to get a degree, or the degrees for which they enrolled, but also what may well represent a much larger proportion, those students who fail to do as well as might have been expected on the basis of intellectual levels and so on, but who still pass. It has been suggested that at least 15% of all students need psychological help whilst at University and that individual counselling and advice should be available for all. Drop out rate in U.K. Universities averages about 11% and 22% more extend their study time in order to complete their courses. On economic grounds alone, this is expensive —an estimated £4 million per annum. The effects of counselling on the wastage rates or underachievement are not easy to assess, but one recent American study has shown that students who made formal use of the counselling service run by professionals achieved a 25% higher pass rate and gained 60% more higher degrees than an otherwise comparable group who did not seek guidance at a counselling office (Miller, 1968, 70).

One must conclude from this literature that the abilities measured before entry to higher education by such things as Ordinary and Advanced Level G.C.E. examinations in the U.K. or Matriculation requirements in America and Australia are not necessarily the sole characteristics required for success in tertiary education. This may be particularly so in non-school disciplines and applied or vocational

subjects. One reason for this is that, having demanded whatever level of achievement A-level does demand, or having selected on the basis of an intellectual or scholastic ability quotient, one is left with a relatively small range of intellectual ability and acquired educational attainment from which the Universities make their future differential assessments. Consequently, in the relative success or the degree of attainment reached by higher education students, other factors become increasingly important. Amongst those other factors are the personalities of the students, their study habits, the methods of teaching and assistance, the methods of examining used, and the conditions under which students live. Students of certain personality types may react to the different conditions of learning, of examining, and of accommodation in different ways, even though one is undoubtedly dealing in this problem area, with individual behavioural or psychological factors within the 'normal' range. The majority of the students who develop the traditional psychiatric illness or abnormality, such as depression, schizophrenia, or severe neuroses, are usually identified. Within the present developing student health services, they are quite well catered for and given the expert medical and psychiatric help necessary. It is the next layer of students who are my primary concern in this research; those for whom one might say counselling, educational or psychological help, rather than psychiatric treatment is necessary; those who do not fail to achieve but tend to underachieve; those who do not gain the most from the facilities and opportunites that Universities offer.

2. BACKGROUND

The data to be discussed derive from three important professional training areas whose successful candidates have a considerable influence on many of our lives, namely medicine, teaching and town planning. Three hundred and seventy-four students volunteered to complete assessments of their intellectual functioning, study habits and a number of personality characteristics. They included 113 medical undergraduates, 194 students at a College of Education and 67 candidates for a degree in Town and Country Planning, representing 33, 88 and 99% of the total available sample. Initial concern that the medical undergraduate sample of 33% might not be representative of the students can be dispelled as the result of two further investigations. Firstly, the Stage I results of the medical students 'in' and 'out' of the investigation were compared. The proportions

of 'in' students in the bottom 25%, middle 50% and top 25% of Stage I examination results showed that there was a slight tendency for proportionally more of the students in the top 25% to take part in the investigation. However, the middle 50% and bottom 25% groups were still well represented—37% of the bottom 25%, 36% of the middle 50%, 49% of the top 25%. Full details of this are given in Savage (1972)'

Secondly, and perhaps more important, was the fact that a further investigation of medical entrants, in which 78% of the students equally representing all levels of examination attainment took part, showed an indentical average personality profile in relation to the Cattell personality characteristics and Wrenn Study Habits.

Each student completed the Study Habits Inventory (Wrenn, 1941) and the Sixteen Personality Factor Questionnaire, Form C (Cattell, 1962). The relevant examination and assessment procedures results were provided by the College and University authorities. In the case of Medicine, the Stage I examination results correlated above .9 with those for Stage II and final examinations. The Teachers' final level assessments were obtained and the Town and Country Planning appropriate end of year examinations data.

However, only certain aspects of the investigations will be presented in this paper. Basically, five preliminary questions will be discussed:—

(1) What are the characteristics of Medical Students.
(2) What are the characteristics of Student Teachers.
(3) What are the characteristics of Student Planners.
(4) How do Student Doctors, Teachers and Planners compare.
But perhaps most importantly:—
(5) What are characteristics of Underachievers.

Without this information we can never hope to identify or help those in difficulties.

3. CHARACTERISTICS OF MEDICAL STUDENTS.

The average study habit and personality profile of the Medical student group can been seen in Table I. Their overall study habits were significantly better than average for the population at large with a mean of 29.1, but there is still considerable room for improvement in this area. The average personality profile of the Medical student may be described from the Cattell Sixteen Personality Factor Questionnaire. Not unexpectedly, they were significantly above average in

TABLE I.

PROFESSIONAL TRAINEE PERSONALITY CHARACTERISTICS.
MEDICAL, TEACHING AND PLANNING STUDENTS.

Factor. Low v. High Score Description Cattell 16 P.F.		Doctors N = 113		Teachers N = 194		Planners N = 67	
		M.	SD.	M.	SD.	M.	SD.
A. Reserved v. Outgoing		5.5	2.0	5.4	1.8	5.0	2.2
B. Less Intelligent v. More Intelligent		7.2	1.1	6.9	1.5	7.0	1.4
C. Affected by Feelings v. Emotionally Stable		5.7	1.6	5.3	1.6	5.6	1.5
E. Humble v. Assertive		6.6	2.1	6.6	2.0	7.2	1.9
F. Sober v. Happy-go-Lucky		5.2	2.3	5.7	2.0	5.3	1.9
G. *Expedient v. Conscientious*	†‡	4.0	2.1	4.3	2.0	3.3	1.8
H. *Shy v. Venturesome*	*†‡	5.0	2.0	4.6	1.8	5.5	1.7
I. *Tough-minded v. Tender-minded*	*‡	6.1	2.0	7.2	1.7	5.8	.8
L. Trusting v. Suspicious		6.0	1.9	6.3	1.6	6.1	1.9
M. Practical v. Imaginative		6.0	1.9	6.1	1.9	6.6	1.9
N. *Forthright v. Shrewd*	†‡	6.5	1.8	6.4	1.8	7.1	1.4
O. *Placid v. Apprehensive*	*‡	5.2	1.8	6.1	1.7	5.6	1.5
Q1. *Conservative v. Experimenting*	*†‡	6.5	1.9	5.5	1.9	7.0	1.9
Q2. *Group-dependent v. Self-sufficient*	*‡	5.6	1.9	4.5	1.9	5.5	2.0
Q3. *Undisciplined Self-conflict v. Controlled*	*†	4.7	2.0	3.8	2.0	4.1	1.9
Q4. *Relaxed v. Tense*	*†	5.4	2.1	6.2	1.9	6.2	2.1
Study Habits (Wrenn)	*‡	29.1	38.9	8.3	46.3	19.1	44.0

Population Mean = 5.5 for each Cattell characteristic. N = 1217.
Population SD = 2.0 for each Cattell characteristic.
Profile Correlation Doctors and Teachers .733
Profile Correlation Doctors and Planners .874
Profile Correlation Teachers and Planners .762
Factors with significant F ratios are italicised.
* Statistically significant differences between Doctors and Teachers
† Statistically significant differences between Doctors and Planners
‡ Statistically significant differences between Teachers and Planners
't' test differences are shown only for those factors with significant 'F' ratios.

general intelligence at about the 90th percentile as measured by the verbal intelligence or scholastic mental capacity of Cattel (Factor B). Their scores were within the average range on the reserved versus outgoing factor (A), on emotional stability (C) and serious-minded versus impulsive (F), shy versus venturesome (H), tough versus tender-minded (I), adaptable versus self-opionionated (L), practical verus imaginative (M), confident, self-assured versus apprehensive (O), group-dependent versus self-sufficient (Q2), self-control or conflict (Q3), and relaxed versus tense dimensions (Q4). Trainee Doctors and Medical students did, however, appear to be slightly more dominant or assertive (E) than average, like most students more expedient in their behaviour (G) and, at the same time, slightly more shrewd (N), analytic and liberal-minded (Q1).

4. CHARACTERISTICS OF STUDENT TEACHERS.

Student Teachers had a mean score of 8.3 on the Study Habits Inventory, which is within the average range. Their study habits leave much to be desired: a considerable amount of help and advice should have been given in this area. Intellectually the average level for the Student Teachers was high, similar to that for both Medical and Planning Students on Cattell's scholastic mental capacity factor. The average personality profile of these student Teachers is shown in Table I. When compared with the average population, they were more dominant and assertive (E), like all students, yet again some what more expedient (G), and generally much more tender-minded and more sensitive. The student Teachers did, however, seem to have considerable self-conflict, lack of self-discipline and control (Q3) with associated personal and interpersonal problems. On the other twelve primary personality factors measured, their scores were within the population average range. This profile of teachers agrees very highly (^{r}p = .96) with that for American teachers provided by Cattell (1962).

5. CHARACTERISTICS OF STUDENT PLANNERS.

The students of Town and Country Planning had a mean score of 19.1 on the Wrenn Study Habits Inventory, which is also above the average range for the population at large, but like those of the Medical students and Teachers, still leaves considerable room for improvement. More advice and help obviously needs to be given in

this area to all entering higher education, though preferably before. Intellectually, the average level for the student Planners was high, similar to that for both Medical students aud trainee Teachers on the Cattell scholastic mental capacity factor (B). The average personality profile of the future Town and Country Planners is shown in Table I. They were generally more dominant and assertive (E), yet again like all students somewhat more expedient, even more so than the potential Teachers and Doctors, and more shrewd and calculating (N) than average. They were radical experimenting rather than conservative (Q1) in attitudes and more imaginative (N), but showed above average self-conflict, lack of self-discipline and control (Q3). Other personality characteristics were within the general population average range.

6. A COMPARISON OF STUDENT DOCTORS, TEACHERS AND PLANNERS.

One must now ask whether significant statistical and practically important differences occur between these professional trainee groups. Consequently, analyses of variance and, where appropriate, Scheffe tests were carried out on each of the characteristics measured in this investigation of professional trainees in Medicine, Teaching and Planning.

Study Habits were seen to be significantly different between the groups. The Medical students appeared to have the best study habits, followed by Planners, both with significantly higher scores than the Teachers. This is of some interest for it can be seen that the intellectual levels of student Teachers, Planners and Doctors on Cattell's factor of scholastic mental capacity are not significantly different. One might also comment that the study habits level for Teachers was extremely low for students undergoing higher education—it was only just within the average range for the population at large— and that even the higher mean levels attained by Medical and Planning students leave considerable room for improvement. There would seem no doubt that all of these professional trainees undergoing higher education would benefit from assessment and advice in relation to their study habits, work effectiveness, etc. In addition to this, however, these professional groups differed significantly on a number of personality characteristics measured by the Cattell Sixteen Personality Factor Questionnaire. Probably of a most practical significance in this regard were the scores on Q3 factor which measures un-

disciplined self-conflict versus controlled socially precise behaviour and attitudes. Potential Teachers and Planners showed significantly more undisciplined self-conflict than Medical Students: a factor associated with personal problems, less precise social self-control and a tendency to follow their own urges. This evidence plus clinical experience with students in difficulty in higher education emphasises the need for help and advice in this area if personal underachievement is to be reduced. A similar position emerged on factor Q_2, measuring self-sufficiency versus group-dependency. Here, Medical students were seen as significantly more self-sufficient and resourceful than both Teachers and Planners, who were more desirous of group approval of their behaviour. This is not surprising and indeed may well be consistent with the different nature and requirements of their chosen professions. Planners and Teachers were both less relaxed in their attitudes than Medical students. It was also found that Medical and Planning students were, in general, placid and confident compared to Teachers who tended to be somewhat more apprehensive and worrying.

Teachers were generally more conservative in their opinions than both Medical students and Planners, Planners, in particular, being the most experimenting and radical in their views (Q_1). Teachers also tended to be more restrained and shy in their behaviour (H) compared with the Medical and Planning students who tended, by comparison, to be progressively and significantly more venturesome and socially bold. The potential Planners were also on average more expedient and rule evading, that is to say generally less conscientious in their attitudes (G) than both the student Doctor and Teacher groups. They were, at the same time, more shrewd and calculating in their behaviour than both Teachers and Doctors (N). The student Teachers were seen as significantly more tender-minded and sensitive than both Doctors and Planners (I).

It can be seen from this report that statistically significant and, in many ways, operationally meaningful personality differences occur between Medical, Teaching and Planning students, which have important implications on how to handle students while on courses and eventually for selection purposes. It would not go amiss to note that student Planners were more tough-minded, a characteristic likely to be most useful in dealing with bureaucracy, Doctors were more tender-minded, but not so low on this factor as to lack self-reliance, whereas Teachers were even more tender-minded and sensi-

tive to others, a characteristic very useful in the difficult job of developing and educating children.

If nothing else, this investigation should make us ask more precisely what personalities we envisage or expect in our professional trainees and practitioners, how these differ between the professions and how we might investigate and assess their levels and their importance.

7. UNDERACHIEVEMENT IN PROFESSIONAL TRAINING.

One might now ask '*What are the characteristics of underachievers on Professional Training Courses?*' In order to look at this more carefully, a comparison was made of the characteristics of the 'poor' versus the 'good' performers in Medical, Teaching and Planning studies. The data on the bottom 25% of each of the student professional trainee groups and that on the top 25% of each of the

TABLE II

PROFESSIONAL TRAINEE PERSONALITY CHARACTERISTICS. MEDICAL, TEACHING AND PLANNING STUDENTS. THE CHARACTERISTICS OF UNDERACHIEVEMENT

		Performance	
		Poor	Good
Wrenn Study Habits Inventory		−1.21	42.15**
Cattell 16 P.F. Inventory:			
Factor description			
A.	Reserved v. Outgoing	4.74	5.47*
B.	Less Intelligent v. More Intelligent	6.98	7.26
C.	Affected by Feelings v. Emotionally Stable	5.92	5.20*
E.	Humble v. Assertive	7.02	6.71
F.	Sober v. Happy-go-Lucky	5.49	5.35
G.	Expedient v. Conscientious	3.78	4.08
H.	Shy v. Venturesome	4.82	5.06
I.	Tough-minded v. Tender-minded	6.23	6.39
L.	Trusting v. Suspicious	6.26	6.18
M.	Practical v. Imaginative	6.22	6.41
N.	Forthright v. Shrewd	6.60	6.63
O.	Placid v. Apprehensive	5.43	5.58
Q1.	Conservative v. Experimenting	6.38	6.53
Q2.	Group-dependent v. Self-sufficient	5.32	5.33
Q3.	Undisciplined Self-conflict v. Controlled	3.53	4.61**
Q4.	Relaxed v. Tense	5.74	5.70

Population Mean   = 5.5 for each Cattell characteristic.
Standard Deviation = ±2.0 for each Cattell characteristic.
Population Mean   = 5 for Wrenn Study Habits.
Standard Deviation = ±40 for Wrenn Study Habits, range −177
+176   *P < .05 t.   **P < .01 t.

Medical, Teaching and Planning students were combined and designated 'poor' (N = 72) and 'good' (N = 71) performers respectively. These results are presented in Table II. A picture emerges which appears to have both face validity and statistical significance. By far the most important difference was in the level of study habits; there was a highly significant statistical difference between the groups. The average performance of the 'good' group was high and as expected of university students. The performance of the 'poor' group was extremely low; a mean of -1.21 on the Wrenn Study Habits Inventory which has a mean for the population at large of 5.0 and a range from -177 to $+176$. The major personality difference seen is consistent with this situation; the 'poor' group were not only significantly lower than the 'good' group, but also significantly lower than normal on factor Q3, which measures undisciplined self-conflict versus control and socially precise behaviour. This factor may more fully be described by reference to Cattell (1970):-

> "According to loaded items, the Q3 + person shows socially approved character responses, self-control, persistence, foresight, considerateness of others, conscientiousness, and regard for etiquette and social reputation. In group dynamics, a high Q3 score especially picks out persons who will be chosen as leaders (Cattell and Stice, 1954), but even more so, those who are routinely effective rather than merely popular leaders. They make more remarks in committee than others, especially problem-raising and solution-offering comments, receive fewer votes as hinderers, and fewer rejections at the end of the sessions. High Q3 is associated with success . . . . . in organisational activities. It is high . . . . in all of whom objectivity balance and decisiveness are required. It is significantly related to . . . . success in school. Clinically, it is of special interest as it is negatively loaded in the general anxiety second-order factor. By hypothesis, it represents the level of development of the conscious, behaviour-integrating self-sentiment, i.e. the extent to which the person has crystallized for himself a clear, consistent, admired pattern of socially approved behaviour, to which he makes definite efforts to conform. The degree of attainment of this self-ideal pattern is, of course, not measurable very validly by questionnaire. What we are here measuring is the amount of concern about and regard for these standards."

In brief, therefore, a person low on this factor tends to lack self-control and character stability, is not too considerate of others, has poor self image and self respect, and frequently has a large number of inter-personal problems. A person combining a very low score, on Q3 personality factor with a low score on study habits would obviously have considerable difficulties with university studies.

Differences are also shown on factor A—reserved versus outgoing, and on factor C of emotional stability. 'Poor' students in fact were slightly more emotionally stable as a group, but this is of little significance as the emotional stability level of both groups is within the average range. The group scores on reserved versus outgoing are also within the average range, although the 'good' group tend to more out-going, easy going, and warm-hearted attitudes.

8. IMPLICATIONS

One can, of course, criticise all this work by saying that the criteria of success, attainment on certain courses of higher education as assessed at present are, in themselves, open to criticism. There is no doubt about this. Nevertheless, they do have a certain amount of validity built up over the years in relation to producing successful practising Doctors, Teachers and Planners. Above all, perhaps this work raises a large number of questions which still need to be answered. If one is to give individuals vocational guidance or if one is to see, having accepted individuals on to courses, that they are given all possible assistance to be successful thereon, one must understand a great deal more about the situation.

In summary then, the major research implication of this preliminary work derived from the finding that there are statistically significant and practically important relationships between individual personality characteristics and achievement on vocational training courses, but that the details of these are far from being adequately understood. Further investigations into this area, particularly longitudinal studies, would be of immense value in relation to student guidance, advice and counselling, the development of reliable and valid methods of assessment and even to the selection or vocational guidance given to applicants. There would seem no doubt, however, even at this stage, that information on study methods and general educational advice needs to be more widely available to all students as well as psychological counselling for those whose personalities are resulting in difficulties with their courses. We have the techniques to diagnose the problems of underachievers and to help them, given the financial and staff resources. Difficulties are particularly likely to occur with students whose poor study habits are associated with either self-conflict, social and inter-personal problems and anxiety or with highly independent, happy-go-lucky attitudes or various combinations of these characteristics. The picture

will not be unfamiliar to Student Health Practitioners. These needs must be dealt with in one way or another, one must remember that in the intending professional practitioner their neglect will have a direct bearing on others.

This type of work raises a number of questions:—

1) Are we selecting students efficiently for vocational courses?
2) What characteristics do each profession or job require and how do we measure them?
3) Are we examining fairly, both in terms of our students and the needs of our professions?
4) Would the 'poor' students do better with a different teaching system or modified examining system or should they not be there in the first place?
5) Are people getting the appropriate vocational guidance at school, taking their personality as well as their ability into account?

In effect, we have either a selection, 'handling' or an examining problem, depending on the angle from which one approaches these issues. We should be interested in seeing the individual reach his or her own potential: equally, we should not go overboard in the direction of change. The course requirements and teaching methods in vocational subjects may need modifying: they do not need to be abandoned. Understanding the personality of students and staff may help bring about many important modifications to our educational system: we should be able to keep the baby and get rid of at least some of the bath water.

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SOME SOCIOLOGICAL PERSPECTIVES ON MENTAL RETARDATION

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ABSTRACT

This paper seeks to explore the usefulness of certain sociological concepts and methods in the field of mental retardation. First, attention is drawn to the definitional flexibility and spatial relativity of the concept of 'mental retardation'. Characteristics of the diagnostic process are then examined. The argument is advanced that most children labelled 'mentally retarded' are so designated because of 'social inadequacy'. It is suggested that one possible form of remedial action for such children would be to learn those tactical skills ('recipes') necessary to demonstrate social competency.

I. INTRODUCTION

A CONSPICUOUS gap in existing literature in the field of mental retardation is the almost complete absence of sociologica contributions. That such an absence has not gone unnoticed is evident from a recent report published by the Institute for Research into Mental Retardation in which there is a strong plea for a major involvement by sociologists in this field, (I.R.M.R., 1972). The reasons for this absence are difficult to explain particularly as *mental illness* has long been viewed by sociologists as providing valuable sources of insight into the nature of man in society. That so many social scientists do not regard mental retardation as a social or cultural phenomenon is seen by one commentator, at least, as a inexplicable mystery, (Edgerton, 1968):

'... nothing in the probablistic world of social scientific reality is more certain than the assertion that mental retardation is a socio-cultural problem through and through.'

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This paper represents an attempt, therefore, to explore the usefulness of certain sociological concepts and methods: in essence, it seeks to provide several sociological perspectives on mental retardation.

2. PROBLEMS OF DEFINITION

In this paper the terms 'mental retardation' and 'mental handicap' are used synonymously. The term 'mental retardation' is the one currently employed to designate persons who in times past have been referred to as morons, mental deficients, mental defectives, mental subnormals, or, in more general terms, the feeble-minded. However, the labels which are given to mental retardation are far less variable than the 'causes'. Over one hundred 'causes' of mental retardation have been specified.

Thus it is clear that mental retardation is not a *unitary* disorder in the sense that all persons who are officially categorized share a common condition that is produced by a cause that is identifiable, for the term can include (a) persons whose retardation is profound and results from a degenerative neurological disease or genetic anomaly (e.g. phenylketonuria), (b) persons who suffer a relatively specific but less profoundly disabling genetic disorder (e.g. Down's syndrome) and (c) persons who have no obvious physical defect and whose intellectual abilities, although inadequate for some tasks, are perfectly adequate for many others, (i.e. mildly mentally retarded). This final category, which constitutes the largest proportion of the mentally retarded population (approximately 85%), is one where it is rarely possible to identify with any degree of certainty the precise cause of their lesser intellectual abilities. It will be apparent then that the term 'mental retardation' is applied to a markedly heterogeneous population.

A further characteristic of the concept of 'mental retardation' is its definitional flexibility and variability. For example, the Education (Scotland) Act 1969, in marked contrast to earlier legislation (i.e. Education (Scotland) Act, 1945), recognizes the fact that disabilities of mind and body are not fixed and immutable. In other words, there is the possibility that with the passage of time pupils formally categorised as 'mentally handicapped' can return to 'normality', either as a result of a change in behavioural or academic performance or a change in social standards or conditions. This legislative change is significant because it underlines the temporal relativity of the

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concept, for not only has the notion of 'mental retardation' itself undergone change in the two decades between the Acts but the new definition embodied in the 1969 Act explicitly acknowledges the possibly transient and impermanent nature of the 'condition'.

An example of the definitional variability and spatial relativity of the concept can be illustrated by the differences between local authorities in their procedures for identifying, classifying and treating children who may be in need of special educational treatment. For example, a child identified and formally categorized as 'mentally handicapped' in one local authority could, if he had lived within the boundaries of a neighbouring authority, have remained undetected and thus unclassified. Local and regional anomalies of this kind can result from (a) ideological differences between authorities, where one favours the integration of such children in normal schools and another favours their segregation in special schools, (b) differences in the actual procedures adopted for the identification and referral of pupils, and (c) differences in financial provision for special education which may be dictated by necessity, conviction or expedience.

It is scarcely surprising that with so diverse and relative a phenomenon as mental retardation, determining the cause is extremely difficult. While there is invariably agreement, both at a medical and common sense level, as to diagnoses of profound mental retardation, no such agreement exists in determining the presence of mild mental retardation. Thus while the utility of the medical model in explaining profound and severe retardation is accepted, it is a wholly inappropriate and misleading model for interpreting mild retardation. Indeed the adoption of the term 'diagnosis' is in itself revealing as it mistakenly suggests that it is possible to detect identifiable symptoms. In fact, there is no evidence that persons who have IQs in the mildly retarded range (i.e. 50–70 IQ) suffer from any degree of organic impairment of the brain or central nervous system. What is evident however is that persons who become labelled as 'mentally handicapped' do so not because of the presence of any specific organic impairment but because of some inadequacy in *social* conduct. Further, the 'diagnosis' of mental retardation is usually made *after* such social incompetence has been demonstrated through the use of intelligence tests, (Edgerton, 1968).

While most psychometricians have confidence in intelligence tests and would argue that their use has been misunderstood and un-

duly maligned, there are nevertheless few who would suggest that such tests are perfect instruments for determining who is and who is not *mildly* retarded. Recent research has also challenged and exposed some of the social assumptions which underlie what counts as valued knowledge in intelligence tests: tests which by their very character and structure underscore the notion of deficit. For example, Warren (1969) has observed that the construction of intelligence tests is unwittingly drawn from the symbolic world of the middle class, while Lee (1955) has shown how membership of an ethnic minority group may not provide a child with the required knowledge of the world outside expected in such tests.

Despite their acknowledged deficiencies diagnosis of mental retardation still ultimately rests upon results from such tests. 'IQ is *the* operational tool and both medical and legal terminologies and classifications of mental retardation are based upon discriminations in IQ scores.' (Edgerton, 1968).

While it has been acknowledged that there are degrees of mental retardation of such severity that a child's intellectual impairment is undoubted, it has been argued that most mentally retarded children are 'manufactured' by those professionally engaged in the process of educational categorisation. The description 'legitimate labellers' has been given to those persons (e.g. doctors, psychiatrists, psychologists and educators) who are presumed to have the necessary knowledge and skills to make a diagnosis, (Cicourel and Kitsuse, 1963; Szasz, 1971).

As a result of their training experience the professional labellers will possess a knowledge of trustworthy 'recipes' (i.e. sets of prescriptions to guide future professional action) and will have a tendency, in their dealings with children referred to them, to think in terms of categories. A cognitive process is thus discernible which becomes ritualised in a habitual routine—'a recipe for action' (Schutz, 1970).

The appropriate 'recipe for action' for detecting and confirming the presence of mental retardation is through the use of diagnostic tests. However, the very process of measurement is in itself revealing. There is an assumption that what is being examined is amenable to precise measurement. In fact, this is an area in which no precision exists, except in the objectives and intentions of the labellers. The diagnostic category arrived at by the labeller is rarely challenged as it tends to be reinforced by both professional support (i.e. the labeller tends to follow occupational group conceptions)

and audience support (i.e. the labeller is presumed by his audience
to have the necessary knowledge and skills to make his diagnosis).
Spurious objectivity and precision is also frequently attributed to
coding schemes, statistical analyses and written observations employed
in the diagnostic process which are dependent, in reality, on rumour,
gossip, conversations, discrepant information and imperfect bio-
graphical stock-taking.

What the labellers, set up as the ultimate experts, are really doing
is acting in a broad legal sense and defining in a technical and modern
way, whether behaviour is *socially* acceptable or not. Thus the label
'mentally handicapped' imposes a set of values on to a group and
implies that the individuals who comprise the group are unable
to perform social roles prescribed by the dominant culture.

3. SOCIETAL REACTION PERSPECTIVE

In order to gain some understanding of the consequences of
labelling children 'mentally handicapped', we can turn to one of the
most pervasive and influential sociological approaches, (i.e. societal
reaction perspective). In essence, the theory holds that persons who
have passed through a degradation ceremony and have been forced
to become members of a categorised group, experience a profound
and frequently irreversible socialization process, (Becker, 1963;
Goffman, 1951, 1959, 1961, 1963; Matza, 1969; Schur, 1969). They
acquire an inferiority status, and perhaps equally important, they
develop a self-image, based upon the image of themselves they
receive through the actions of others.

The ceremonies which accomplish this change of status, ordinarily,
have three related phases. Firstly, they provide a formal *confronta-
tion* between the subject and representatives of his community (e.g.
as in a psychiatric case conference). Secondly, they announce some
judgement about the nature of the 'handicap' (e.g. a verdict or diag-
nosis). Thirdly, they perform an act of social *placement* assigning him
to a special role (e.g. member of a special school or institution)
which redefines the person's position in society.

What this perspective lacks, however, is a recognition that in
addition to the developmental aspects of learning the demands of
particular roles, there is also a transformational aspect which is
dominated by the individual himself, who actualises elements of
previous and concurrent self-images into the interaction which is
shaping a new identity out of the old. Nevertheless, it would appear

from what we know of mental retardation that it is important to stress that the expectations held by others play a crucial part in determining the behaviour of a person and such expectations should be taken into account in any general theory of mental retardation.

Whether or not a person labelled 'mentally handicapped' remains 'mentally handicapped' may depend in part on the social expectations he confronts. As a general rule, people normalise the behaviour of others (i.e. they interpret the behaviour of others in the light of the situation and the person's past behaviour). Thus, if a person has a long history of inappropriate behaviour and then starts to act in an appropriate fashion, others will normalise his behaviour (i.e. still see his behaviour as inappropriate). So, once a person becomes defined and firmly entrenched as 'mentally handicapped', the expectations of others may make it very difficult to leave this definition.

4. SYMBOLIC INTERACTION PERSPECTIVE

Systematic study of the world of the young mentally retarded has received little attention from the sociologist, for it has long been seen as the province of the child psychologist. When asked to explain the development of social behaviour and the self concept in children, sociologists have tended to rely on the analyses of Mead (1934) and Cooley (1922) to provide the needed answers.

The basic feature of the interactionist model is that the mentally retarded child can put himself in the place of another (i.e. role-taking). The implications of this are that with the child's self development:

(a) he can look at himself from another's point of view, or, in Mead's terms he can be an 'object to himself'. This does not necessarily imply that he is accurate in his role-taking, but simply that he gets an impression of himself from others' actions.

(b) he can engage in hypothetical action and interaction and can relive situations and bring the responses of the past to the present —here and now—situation. This allows him to bring continuity from one situation to another, and

(c) he can thereby look at himself not merely from another's point of view but from his *own* point of view. He can present what he feels to be appropriate elements of his self-concept for any particular situation.

Given our present state of knowledge such an analysis from a symbolic interactionist perspective can only be tentative. A more
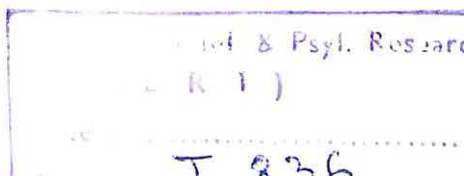
profitable approach might result from rejecting simplistic conceptual analogies of socialization and by attempting to enter the world of the child and to see the world as he sees it.

5. INTERPRETIVE PERSPECTIVE

Such an approach would entail the study of actual behaviour in the child's encounters, typical problems and typical ways of handling them. To do this one would have to use a variety of techniques for getting at 'real life' through participant observation, tape-recordings, etc. This interpretive perspective follows from a recognition that the child interprets the meaning of his situations and directs his own and others' purposes, which are subject to reformulation on subsequent occasions.

Much of the research on self-conception and the mentally retarded has suffered from serious deficiencies. Two examples of which deserve special notice. Firstly, much of the research reflects the thinking and biases of the researcher rather than the natural cognitions and concerns of the subject, (Ringness, 1961; Guthrie, Butler, Gorlow and White, 1964; McAfee and Cleland, 1965). It seems necessary therefore to consider ways in which the collection of information can be informed by the researcher's own interpretive stance as a competent social actor on the scene. It is also necessary to examine the ongoing interpretations the child makes of his own activities and to investigate the ways in which the child makes sense of apparently senseless proceedings. Possibly the resultant analyses of the child's methods for constructing and interpreting his social world will feed back into a more sophisticated appreciation of the status of the data which researchers collect from interviews, participant observation, surveys, etc. Secondly, researchers cannot take as 'givens' many features of the social situation of the child, which the latter routinely but actively sustain, if they are to avoid embracing the re-ified accounts of social life communicated by the child.

Thus one branch of the symbolic interactionist school, followers of Manfred Kuhn, while stressing the importance of subjective meanings, set off to try and measure the 'self conception' through self reporting within a questionnaire format. Goffman criticises such research on the self for reliance on subjects' reports of self conceptions. 'Instead of starting with a subject's verbal description of himself, one has the serious ethnographic task of assembling the various ways in which the individual is treated and treats others and deducing

what is implied about him through this treatment.' As Goffman emphasizes, actors are usually unaware of how they do things: they take their routine performance for granted.

A central part of Goffman's work is concerned with face-to-face interaction, small behaviours, the 'presentation of self' (i.e. the performance that *ego* must 'put on'), and the impression management and information control for *alter* to interpret his actions correctly.

While Goffman regards social encounters as basically orderly and patterned by co-operative social endeavours, encounters can be fragile affairs, for persons are 'ritually delicate objects' and every competent actor must possess a range of tactics to ensure proper identity-maintenance and to carry out ritual repair work. He must know how to display both the proper respect to others' identities (*deference*); how to display the appropriate avoidance and presentation rituals and the proper respect for his own *demeanour*; how to make requests and denials without causing undue offence; how to apologize and how to accept apologies gracefully (*interchange*). It is only the use of such skills that enables the maintenance of everyday encounters and one is only granted the status of a 'normal person' on the basis of their demonstrated possession.

Adult interaction with 'mentally handicapped' children, who lack such skills, is markedly different. On many such occasions, the child is continuously threatened by aggressive 'face-work'—snubs, sarcasm, gossip and mis-representation. In the presence of stigmatised persons special regard to 'face-work' is normally paid, since the possibility of incidents is increased. On meeting a stigmatised stranger, one may seek to avoid the presence of 'odd' features, or we may attempt to re-define 'oddness' as something normal and expected.

Davis (1961) found that handicapped people reported that social encounters with unfamiliar actors were characterised by familiar signs of discomfort and 'stickiness'. Methods of attempting to bridge the breaks in smooth interaction included guarded references, common everyday words suddenly made taboo, the fixed stare, artificial levity and awkward solemnity. The handicapped social actor attempts to rectify the position by (a) deviance disavowal and (b) breaking through or 'passing'. 'Passing' involves laying a claim to a better face and having that claim accepted.

Children thus have to learn that how an act is presented shapes the

response that it receives and that different audiences and situations require different modes of presentation, (i.e. that one varies lines of action according to the particular encounter). A child's inability to focus on, to spell out what is relevant or his tendency to be too readily distracted or too single-minded may lead to the label 'mentally handicapped' being attached to him. Such children have not yet learned the skill of turning their attention to the right thing at the right time. The teaching of these skills and 'recipes' is therefore of crucial importance. Learning these 'recipes' is a central part of the socialization process, though one does not consciously have to use them to work in the everyday situation and therefore one rarely notices their use. It is only under special circumstances that one becomes aware of the use of tactics, for example, when one finds oneself in new or ambiguous situations or when the stakes involved are high.

6. DEVELOPMENT OF TACTICAL ABILITIES

We have argued that everyone needs to develop a modicum of tactical skills in order to pass as a competent member of society, we have stressed the very special nature of the deviant child's position and the consequences of his deviancy for his identity and we have also argued that socialization to the particular position of mental retardation can be analysed partly in terms of the acquisition or lack of the relevant 'recipes'. It follows then that children in different family structures will tend to acquire very different ways of coping with the world and have different levels of awareness of it. Some of the most recent work on socialization is moving towards this kind of analysis. For example, Bernstein (Bernstein and Henderson, 1969) has argued that different language 'codes' are learnt as a response to different types of control situation.

Future sociological research should therefore focus on the stock of 'recipes' available to the child, their origins and the manner of their embodiment into our social structure. It is also necessary to examine how children acquire such skills and to examine the child's awareness of his situation. Although such a model is so far little developed it would seem central to an analysis of the socialization of the mentally handicapped child. Goffman would seem to provide us with a conceptual framework and an empirical guide for more detailed and concrete analysis.

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PSYCHOLOGICAL TESTING: CURRENT PERSPECTIVES AND FUTURE DEVELOPMENTS

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ABSTRACT

Four main areas of current criticism of psychological tests (conceptua) limitations in the study of intelligence, inherent limitations of I.Q. tests, problems of interpretation and the social implications of testingl are examined in the context of potential developments in theory and practice—in particular, those developments afforded by the "creativity" movement. It is suggested that many criticisms might be met by a broader view of the purpose and strategies of assessment. This should incorporate an emphasis upon styles, *as well as* levels, *of thought and behaviour, and upon the* processes, *as well as the* products, *of test performance.*

I. INTRODUCTION

PSYCHOLOGICAL tests have been heavily criticised in recent years, and a large proportion of this criticism is not unjustified. It arises from within psychology itself, and from workers in disciplines which feel the effects of tests and testers, such as education and sociology. Psychologists point out the lack of theoretical conjunction between psychometrics and the rest of cognitive psychology; they question the validity of concepts underlying tests (such as "intelligence") and the effectiveness of the tests in measuring them. Educators and sociologists comment upon the adverse effects that "test" ideologies can have on the student, and upon the pitfalls involved in the interpretation of test scores by unqualified users, who fail to appreciate the limitations of psychological tests.

There is a real danger, in the present climate of opinion, of the baby being thrown out with the bathwater—of the practical and theoretical gains of psychometrics being confused with the redundant

aspects of test technology and ideology. On the practical level, tests have led to considerable advances in the procedures of educational and industrial selection, diagnosis and guidance. They enable detailed and reliable information to be obtained in situations in which other procedures (such as subjective judgement in the interview) would be subject to gross errors and potential abuses; they refine observation. Insofar as psychologists are interested in individual differences, it is inevitable that behaviour must be assessed and evaluated. Tests provide the best means we have, at the present time, of doing this—they are a simple, useful guide to performance in our society.

The present paper represents a plea for perspective; it will look in detail at the current criticisms of psychological tests in the light of potential developments in theory and practice. We shall consider four main areas of criticism—the study of intelligence, inherent limitations of I.Q. tests, problems of interpretation and the wider social implications of testing before looking at directions for future development (which centre on the "creativity" movement). The discussion will concentrate on the measurement of intelligence and "general" abilities; by moving away from an over-reliance on the I.Q., and by broadening our conceptions and strategies of evaluation, it is hoped to show that many of the criticisms can be met.

2. THE STUDY OF INTELLIGENCE

The development of psychometrics, from the pioneering work of Galton and Spearman onwards, has been based upon technological rather than theoretical advance. The emergence of the "structure of intellect" models of Burt (1949), Vernon (1961) and Guilford (1967) was the result of increasingly sophisticated techniques of factor analysis of test scores rather than of new approaches to the study of intelligence. The consequence has been a distinct split between psychometric theories of intelligence and the study of cognition in general; compare, for example, the notion of a capacity of general intelligence which is measurable by tests, with Piaget's influential conception of intelligence as a continually-changing series of adaptations to the environment (Piaget, 1950).

"Research on human intelligence", writes Hudson (1970), "has been dogged by a single technique. For fully half a century, the rite of measuring I.Q. has seemed sufficient in itself to those who perform it" (p.9). This quotation is taken from Hudson's collection of readings,

The Ecology of Human Intelligence, which represents Hudson's proposed way out of the I.Q. impasse. The ecological approach considers all those aspects of man's nature and environment which determine his intelligent behaviour; thus we find sections of the book on cultural influences, biological factors, the early environment and intellectual maturity. This domination by the I.Q. has also led us to form an inadequate conception of giftedness; there is more to intelligence than being able to do well on tests.

Some critics (e.g. Ryan, 1972) have argued further that those aspects of intelligent behaviour which *are* measurable by I.Q. tests are those which are bound up with the prevailing educational ideals. Ryan argues that I.Q. tests measure nothing more than educability, or educational success, in western society; any attempt to validate them against criteria of educational attainment, therefore, completes the vicious circle in which "intelligence" becomes defined in terms of conformity to arbitrary educational standards. Ryan's rejection of the I.Q. provides a good example of the throwing out of the psychometric baby which was mentioned earlier. It is true to argue that cognitive abilities are intricately bound up with the values of the society in which they are expressed, so that social class, for example, is an important determinant of educational attainment. With these limitations borne in mind, however, the usefulness of some measure of adaptability to the prevailing social values in making within-group comparisons and predictions is undeniable.

3. INHERENT LIMITATIONS OF I.Q. TESTS

Two of the main features of a good psychological test are validity and reliability; does the test measure what it is supposed to, and does it do so consistently? There exist various procedures for the accurate assessment of both features for any given test, but to assess the former involves the establishment of some criterion of the qualities which the test is designed to measure. As we saw in the previous section, the establishment of such a criterion for so complex a dimension as "intelligence" is fraught with problems of cultural bias. As Ryan (1972) has pointed out, the establishment of age norms for a test means that the evaluation of an individual's performance is statistical rather than qualitative; "slow development" becomes indistinguishable from "low intelligence". It is also important to realise that such evaluations are only applicable to the standardisation samples upon which the norms are based—one cannot meaningfully assess the

performance of a working class Negro on a test standardised on samples of middle class whites. The more obvious signs of cultural bias are in test material, and have been well-documented; we distinguish between oral and written response modes, verbal and pictorial material, pencil-and-paper and performance measures, and so on. It is inevitable that tests will reflect the attitudes and beliefs of their authors; again it is true, however, that within-group comparisons can be meaningful with these limitations borne in mind.

4. INTERPRETATION OF TEST SCORES.

An individual's score on a test is a very brief summary of his response to a complex and untypical situation. It is well known that situational factors such as the characteristics of the experimenter, the atmosphere in which the test is administered, and the individual's expectations of the purpose and importance of the test exert a powerful influence upon his motivation and subsequent performance. A full account of this performance ought to take these factors into consideration; non-psychometric aspects of the test situation are of considerable importance. Test scores reflect the effects of situational factors; their susceptibility opens up areas of research which will be described in the final section.

A test score, particularly in the hands of an unqualified user, can become a "magic number", or label, whose limitations are quickly forgotten. Over-rigidity in the interpretation of scores perhaps lies at the root of many of the objections to tests, and the I.Q.'s "spurious aura of scientific respectability" (Ryan, 1972, p. 54) adds to the problem. The "labelling" mechanisms which can follow the allocation of an I.Q. can dictate an individual's status, and are potentially capable of undermining his self-esteem and motivation.

Test users must constantly bear in mind that an I.Q. is only a rough indicator of potential ability, and not a fixed characteristic. The same score can be obtained in several different ways, since it represents an aggregate of subscores; individual *styles* of performance are lumped together. Furthermore, the scale of measurement is an ordinal, and not an interval one; the difference between individuals with I.Q.s of 90 and 100 is not the same as that between individuals with I.Q.s of 140 and 150. We must bear all these limitations in mind when using overall I.Q. scores; we must also remember that high scores are much more meaningful than are low ones. Although a high I.Q. indicates the presence of a certain capacity, a low I.Q.

does not necessarily imply its absence; an off-day, a lack of interest in test material or lack of test technique could produce an inaccurate low score.

5. SOCIAL IMPLICATIONS OF TESTS AND TESTING.

The possibilities of misinterpretation and abuse of psychological tests, particularly by unqualified users, have important implications concerning the social responsibility of the psychometrician. The American Psychological Association (APA) set up the ad hoc Committee on Social Impact of Psychological Assessment (Berdie, 1965) in response to a wave of public concern over the "snooping" and "brainwashing" abuses of tests (e.g. Gross, 1962; Hoffman, 1962); there followed a full-scale Congressional Inquiry into testing (Amrine, 1965). Tests were seen as eliciting information which was subsequently used in making impersonal and mechanistic decisions about individuals; personal privacy, and freedom of choice, were seen to be under attack. Once test data leaves the hands of the psychologist, who realises its limitations, there is a very real danger of its potential abuse in the control of the educational and industrial destinies of individuals.

It is the responsibility of the individual psychologist to safeguard against this kind of abuse by ensuring that test data remain inaccessible to unqualified users. He must constantly be aware not only of the personal and social context in which the individual encounters tests, but also of the potential use to which his scores may be put. The APA has laid down codes of conduct in the Ethical Standards of Psychologists (APA, 1953) and in the "Technical Recommendations for Psychological Tests and Diagnostic Techniques" (APA., 1954); as Messick (1965) points out, the problem lies in the formulation of a workable control procedure for enforcing these accepted principles rather than in their details.

6. DIRECTIONS FOR FUTURE DEVELOPMENT

The proliferation of psychological studies of "creativity" over the last 20 or 30 years has been remarkable; as Freeman, Butcher and Christie (1971) point out, "It is now accepted in erudite and conservative circles: a review of the appropriate major learned journals and abstracts in education and psychology shows that a significant number of sub-sections have been established under the general heading "creativity" (p.74). This movement has had its major

impact on the field of psychological testing. Although the problem of establishing criteria of real-life creativeness for the validation of "creativity tests" remains a major one, the potential of these measures (more accurately referred to as "divergent thinking" or "ideational fluency" tests) for broadening the scope of the study of abilities is considerable. Divergent tests measure the ability to generate a number of different solutions to the same problem rather than the ability to converge upon the one correct answer, as in conventional I.Q. tests. Because subjects respond "projectively" (they are free to give what they have to offer rather than being constrained by the prior expectations of the experimenter), it is possible to manipulate and observe the effects of aspects of the test situation which are not usually taken into consideration. We can look at *how* responses are arrived at rather than merely at *what* they are, and thereby gain insight into the psychological processes which determine test performance.

Studies such as those by Ward (1969), Elkind, Deblinger and Adler (1970), Vernon (1971) and Ward, Kogan and Pankove (1972) have illustrated some of the ways in which specific situational variables can arouse individual differences in motivation, and how these differences affect divergent test performance. Hudson (1966, 1968), also using divergent tests, was able to delineate some of the mechanisms by which biases in cognitive style (convergent as distinct from divergent) become moulded, by subtle cultural pressures, into whole life styles. To study this type of interaction between the domains of cognition and personality, which have hitherto been rigidly compartmentalised, is a route via which testing might become more closely related to general psychological theory. Divergent tests should realise their potential for extending the theoretical scope of the psychometric approach, rather than merely forming additions to existing test batteries.

In short, our concept of evaluation needs to be broadened. It is true that current mental testing relies on a limited set of techniques which are applied in relatively artificial situations, and that a correspondingly limited and biased view of cognitive functioning is taken. Tests should be seen in context rather than rejected; they should play an important part (though not an all-important part, as has been the case in the past) in a wider conception of assessment. One main characteristic of this widening should be an increasing emphasis upon *styles*, as well as *levels*, of thought and behaviour. Although the two

are complementary, the testing movement has been largely concerned with ranking individuals according to their relative abilities rather than studying the ways in which these ranks are attained. We should move away from the emphasis upon pencil-and-paper tests of convergent intelligence to incorporate more naturalistic forms of assessment, such as observational analyses of spontaneous play (e.g. Hutt, Hutt and Ounsted, 1963; Hargreaves, 1973). There is no reason why "the test" should be associated with control, restriction and anxiety, as in the past. By broadening our strategies of evaluation, and our conceptions of its purpose, these undesirable connotations might eventually disappear.

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COMMUNICATIVE COMPETENCE AND GRAMMATICAL ACCURACY IN FOREIGN LANGUAGE LEARNING

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ABSTRACT

Foreign language performance in the classroom is generally evaluated according to its grammatical accuracy. This procedure conflicts with the actual prerequisites of communication and with the acquisition of language in natural situations, as well as imposing objectives which many learners cannot approach. More could be achieved with a communication-based approach, moving the emphasis away from structural practice towards the exploitation or creation of situations in which language can perform a function as bearer of messages.

I. STRUCTURAL AND COMMUNICATIVE CRITERIA IN LANGUAGE USE

FOREIGN language teaching is still, for the most part, based upon an approach to language whose focus is on a system of grammatical structures in which items are combined according to rules. It is this system (or selected parts of it) that the learner is expected to master, and which can define his utterances as right or wrong without reference to situation or communication. Although the relationship between language as a self-contained structural system, and language as communication, is becoming ever more prominent in current theory and practice, it is still generally true that when the pupil communicates, his production is finally accepted or rejected according to structural criteria, especially grammatical accuracy, however much situational or communicative factors may provide initial or additional criteria. If a learner makes a mistake but is nevertheless allowed to continue without interruption, this is generally seen as a concession to motivation; otherwise, teacher and pupil still have to live with the often disheartening results of judging linguistic production according to its approximation to the grammatical

model. In no other subject is the objective so uncompromising: anything short of (grammatical) perfection is stigmatized; and in no other subject is failure to reach the objective so obviously and continuously displayed before teacher and learner alike, so that it is no cause for surprise if foreign languages constitute one of the most unpopular parts of the school curriculum (Rée 1972). A language class can seem an unrelieved post-mortem, or an inquisition for grammatical sins.

Problems accumulate as language learning comes to the. ess able in secondary schools. After a short-lived flirtation with the idea that modern methods had already brought foreign languages within everybody's grasp (based largely on the mistaken belief that habit-formation was the only learning process involved), the language-teaching world is being forced to rethink its methods and, particularly, its objectives (see for example Hawkins 1972). In so far as language learning is not largely replaced by "European Studies" or something similar, solutions generally revolve around an emphasis on receptive skills and a severe restriction of productive demands, perhaps to the *re*production of phrases learnt by rote (see for example Smith 1973). The alternatives seem to be that learners and teachers should undergo years of struggle or resignation, whose educational value remains an article of faith to fewer and fewer educationists, or that we should cease trying to teach foreign languages to those who do not want them.

On this last point, the present article remains neutral. It does, however, start from the assumption that, whatever policy may be, there will always be people wishing or needing to learn languages, whose ability in terms of grammatical accuracy will be limited, but whose needs are not met by the rote learning of set phrases. It starts also from the simple observation that even after a history of learning failure at school, a person who finds himself in a foreign community is often able to use his battered linguistic scraps as an aid to communi-cation: in other words, performance that was once negatively evalu-ated in terms of a system of grammar, may be positively evaluated in terms of a system of communication. From this standpoint, the article asks whether there may be other alternatives to those just mentioned, based upon an approach which incorporates some of the logical implications of viewing language not primarily as a self-sufficient structural system, but as one part (only) of a system of communication.

2. THE ABILITY TO COMMUNICATE

If somebody enters a room holding a box, and the occupant wishes to indicate that he should put it down near the wall, there are a number of options open to him, falling into three main categories:
1. He may communicate purely linguistically by saying, for example, "put it by the wall, please" or "would you mind putting it down near the wall".
2. He may combine linguistic and non-linguistic means. For example, if he says "put it there, please", he must also point or nod towards the spot. He is indeed likely to use some such gesture in any case, for most communication is multi-sensory (see for example Argyle 1972 and Birdwhistell 1971).
3. He may use purely non-linguistic means such as nodding or pointing.

Which option he chooses, would normally depend on situational factors such as relative status between speaker and hearer, noise-level, and so on (see for example Robinson 1972), but at a basic transactional level, the options would perform the same function, namely what Halliday (1973) calls the "regulatory" function of asking the other to put the box near the wall. This is not to deny that the success of the request may depend on the information that the speaker conveys about his attitude and interpretation of the situation, by virtue of his choice of one option rather than another; however, this is likely to be less crucial when the hearer knows that the speaker (a foreigner or a child) is limited in his range of options, for this would normally be a key factor in the *hearer's* interpretation of the situation.

The option chosen, then, would depend not only on the situation as interpreted by the speaker, but also on the range of options commanded by him: on his knowledge of the communication system, and his ability to use this knowledge, in other words on his "communicative competence" as defined by Hymes (1972) and others. An educated adult in his native environment might have a wide repertoire of options at his disposal, so that his choice would be sensitive to fine situational variation and carry correspondingly subtle information about how he views the situation. The range and fineness of distinctions would be less for other adults, less again for a child, down to the infant whose only means to communicate might be to gesture violently, perhaps uttering a single word "wall' or some phonetically similar sound.

Language is therefore a tool performing communicative functions, alone or (more normally) together with non-verbal means. The latter may often perform the function alone, albeit less elegantly and at a more rudimentary level, if this is made necessary by the situation or the level of communicative competence of the speaker.

If we now take the case of the person placed in a foreign community whose language he has not learned, it is clear that he will at first be ignorant of most but not all of the communication system: his communicative competence will not be zero, since a large part of the non-verbal communicative resources of his native community will form a part of the foreign system also, providing a basis on which he can build by acquiring more adequate and more various resources. These will be largely (though not necessarily entirely) linguistic by nature, but need not take the form of grammatically accurate sentences. Indeed a list of content words, even the ability to pronounce intelligibly from a dictionary, would already represent an extension of communicative competence which could be more productive than the rote memorization of set phrases. A few combination rules would extend the repertoire immensely.

In this context, a glance at recent child language studies is instructive. They show clearly how a wide range of semantic functions can be performed by, say, a surface structure consisting only of two content words (see Bloom 1970, Slobin 1972, Halliday 1973). Equally instructive is the experience of any adult who is highly motivated to communicate in a foreign community with the minimum of resources. His competence in communicating does not necessarily correlate with his ability to produce grammatical strings. What it does in fact correlate with, is not known, but one might guess that at this basic level, a major factor is the ability to draw on *all* available communicative resources, and to exploit the redundancy inherent in language and provided by the situation. "The speaker knows that the listener is capable of employing contextual information to compensate for deficiencies in the quality of his own speech". (Wanner 1973:166). Birdwhistell (1971:108ff), writing of the "multisensory redundancy" in communication, points out the ability of the deaf to exploit this when communicating with the hearing world. Such abilities as these are obviously relevant for communication in a foreign community, but are more likely to be inhibited than furthered by the insistence on grammatical accuracy as a summum bonum which characterizes most language instruction.

3. THE PLACE OF GRAMMATICAL ACCURACY

This article does not claim that grammatical accuracy is unnecessary, but that its place in a communication-based approach needs re-examination. Its importance in such an approach must depend on our measurement or estimation of its specific contribution to communication, weighed against the contribution of other factors, at different levels of communicative competence. It might be estimated, for example, that if a zero beginner spent two hours learning some relevant items of vocabulary before a trip abroad, this knowledge, together with gestures and the determination to make himself understood, would equip him better to deal with "survival" situations than would two hours spent learning elementary verb-endings to the point of perfection, and the fear of being wrong. It is also clear, however, that at a more advanced stage, finer discriminations in communication can only be made through the ability to manipulate the linguistic system to a high degree of exactitude. Communicative competence grows through an increasing mastery of communicative resources, beginning at a point where the learner has only non-verbal means but moving *towards* a point where his command of grammatical, sociolinguistic and behavioural rules is fully sufficient to the situations he meets. It would perhaps be more in accord with the growth of language in natural situations, and with the actual requisites for communication, if we were able to place the insistence on grammatical accuracy at the end of this development rather than at the beginning, except for those points in the system where exact grammatical distinctions are indispensable to communication at the level involved.

There have already been many investigations into the frequency (and therefore, it is assumed, the usefulness) of different items of vocabulary or grammar; the best known of these is probably "le français fondamental" (see Gougenheim et al. 1956). An investigation with a broader base, in terms of the total communication system and the functional load carried by different parts of it in communicative interaction, would be difficult but revealing. It is evident, for example, that in the *spoken* French utterance "les manteaux coûtent trop", the only signal of plurality lies in the definite article, which may therefore be indispensable to communication, though even this may be made redundant by the context or the situation. On the other hand, knowledge of the ending put on the written forms of noun and verb is irrelevant to spoken communication. The spoken German

equivalent shows a high degree of redundancy by signalling plurality three times, on the article, the noun and the verb ("die Mäntel kosten..."). At her own level, the present writer's child communicates very effectively in German despite many incorrect morphological endings, and the foreign language learner can often achieve a similar imperfect but fluent communicative competence, again at a functional level. Significantly, morphological inflexion is generally acquired towards the end of the first language acquisition process (see R. Brown 1973:399).

In order to interact, then, it is not necessary for two people to share the same communicative system: the crucial factor is whether their *respective* communicative systems overlap sufficiently to cover their current communicative needs. Within the same language community no two members operate identical systems, so that there is always a danger of misunderstanding, especially in the finely shaded areas of paralanguage, or when complex ideas or attitudes are to be communicated, or between speakers of different social or occupational dialects. On the other hand, speakers of different languages who have in common only the non-linguistic part of their communicative systems, may still be able to communicate at a rudimentary level, sufficient for simple purposes such as travelling through the country by train. The foreign language learner's aim is to extend his own total communicative system (L_1 and L_2), so that the overlap between it and the foreign system is sufficient to fulfill his communicative needs. For some learners, this will mean aspiring to master the whole system to perfection, while for others, it will be a question of acquiring resources which will serve a practical function in everyday situations.

It is significant that where the receptive skills are concerned, it has long been admitted that precision is less important than communication. "If students are being encouraged to develop habits of fluent reading in the foreign language a certain vagueness of this sort with some words must be accepted as part of the procedure" (Rivers 1968:232). Receptive skills are often presented as an attainable aim for pupils who find difficulty in language learning: perhaps this is due not only to greater ease of acquisition, but also to the fact that performance is evaluated according to communicative rather than structural criteria, and if productive performance could be evaluated in the same way, it might well prove accessible to a greater number of pupils than at present. In practical terms, this would mean that the emphasis of teaching needs to move away from struc-

tural practice in the form of repetition, drills and exercises, and towards the exploitation or creation of communication situations.

4. LEARNING THROUGH COMMUNICATION

Ironically, it is frequently the case that when teacher and pupil really have something which they need to say to each other, they use English, but that when they come to speak the foreign language, they have nothing that they need to say and the time is spent creating artificial topics about which they have no real motivation to communicate (e.g. "Quel âge avez-vous? Où habitez-vous?" when the teacher knows that all the pupils are about twelve years old and live in the same town, and the pupils know that he already knows). This is, of course, a reflection of the true situation in the classroom, where the natural language of communication *is* English and it *is* artificial to use the foreign language (cf. Macnamara 1973). By the very fact of speaking a foreign language, teacher and pupil are playing a role. However, if this role can be played in genuinely communicative situations, then at least the language is performing its function as a carrier of messages and is given the status of proper linguistic currency. To the extent that language is made the instrument for communication rather than for non-communicative linguistic play, so also can communication be the yardstick by which to measure performance, and so also can there be real motivation for this performance to take place.

In the normal context of the classroom, however, the number of actual messages which *need* to be transmitted is limited, perhaps to little more than a few instructions and responses before and after the lesson proper. Even visual aids are essentially means for creating communication for communication's sake. Again there is irony, in the fact that those lessons (apart from English lessons) which are most concerned with the achievement of communication, are also the most empty of material about which to communicate: teacher and pupil sit there, so to speak, with a great deal of language to develop, but nothing to language about. The natural extension of this line of thought is that, after the initial stages, the basic structure of language lessons should be provided by non-linguistic subject matter, either by a subject which creates a factual framework such as geography or history, or by an activity such as art, P.E. or drama, which would act as a source of communicative situations. The report of such an experiment involving history and geography (Brown 1973)

indicates success with pupils of high academic ability, and left the exponents "firmly of the opinion that the philosophy behind what (they) are trying to do is no less valid for boys and girls of less academic ability" (p. 30).

This philosophy, that the foreign language "must cease. . .to be a 'subject' in its own right; it must merely be taken for granted" (p.27), does not necessarily need a full reorganization for its implementation: it can underlie method and techniques in individual lessons and lead, for example, to focusing lessons on topics and activities which are of interest in their own right, and aiming to maintain a natural flow of communication rather than to correct mistakes which do not in themselves hinder communication.

In terms of reorganization, the logical extension of these methods would be towards bilingual education, which, in Stern's words (1973:61), "as a means of second language learning appears to owe its success to the fact that it offers the necessary opportunities for the application of the language being learned". The success of experiments in Wales (Schools Council 1972) and especially Canada (Lambert et al. 1973) might not be repeatable outside specific cultural situations, but must still be viewed as relevant to any less far-reaching scheme to reorganize language teaching on a communicative basis.

The possibilities mentioned so far in this section have involved the exploitation or restructuring of the real classroom environment so that it can become the source of communication situations. Other possibilities arise through the creation of an artificial environment within which the pupils must communicate, that is, through simulation. The simulation of everyday situations for purposes of role-play is, of course, already a common device in language teaching. For an approach based on communicative competence, the essential factor is that the created situations should contain an information-gap which needs to be crossed. They need sufficient structure to provide a framework within which to communicate, but sufficient flexibility or uncertainty to make the actual messages unpredictable to the receiver. This is the case, for example, in a game situation where one player possesses information unknown to the other and must communicate it, or let the other elicit it, by whatever verbal or (at first) non-verbal means are available. More extended games such as monopoly can provide a series of situations based on real life activities, and require the communication of a variety of information over a longer period; games of this nature devised especially

5. CONCLUSION

The article has now come full circle, for it began by looking at the prerequisites for communication in a natural environment and de- cided that the major factor was not necessarily grammatically accu- rate sentences; it continued by considering how this view might affect language teaching, and suggested that the emphasis would fall heavily onto the exploitation or creation of communication situations in which messages could be sent and received; and it has ended by returning to the natural environment, as not only an objective of learning but also a means. Its main aim has been to question the linguistic assumptions that underlie most language teaching, and to suggest that a clearer recognition of the communi- cative function of language might result in a more realistic and effec- tive experience, especially but not exclusively for those who find difficulty in meeting the structural criteria which are generally applied to classroom language learning.

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for language teaching are now available commercially, e.g. from the Hueber Verlag in Germany. Further, it may be expected that the organized simulation exercises used in other fields of education (see for example Taylor and Walford 1972) could be created and exploited for language teaching also. They are already used in specialist establishments such as the Colchester English Study Centre, where doctors learning English deal with simulated medical cases and German diplomats attend simulated international confer- ences conducted in English. The fact that these learners are very exceptional cases does not preclude the adaptation of the techniques for more general objectives, and in the meantime, much can be achieved by the simulation of individual situations in which infor- mation has to be sought and communicated, and in which situational factors indicate whether communication has indeed taken place. Of obvious relevance in this context are techniques used in drama such as mime and the improvisation of scenes, in which the linguistic element would grow in step with the individual learner's develop- ment.

In this section, we have considered restructuring the real class- room situation, and introducing simulated situations into the class- room. The next step is to leave the classroom and interact with the real foreign language speaking community. Exposure to foreign situations is not only the objective of learning, but also one of the most reliable ways of ensuring that learning occurs, provided of course that communicative involvement takes place, which may not be the case with an organized visit. For the purposes of language learning, a "foreign situation" could be just one French or German friend, not even necessarily in the foreign country. It is in such situations that the learner finds the motivation to communicate and the com- municative feedback which are essential to learning. Indeed the classroom teaching process is perhaps best seen not as aiming to turn out "finished products" who have "learnt a language", but rather as an attempt to furnish the learner with resources of knowledge and skills which will enable him to enter the real foreign environment with a functional ability to communicate and, above all, the prospect of extending his competence through interaction. This might help avoid some of the disappointment experienced by learners who have "completed" a course but nevertheless find themselves limited in their capacity to communicate in the language, by making it clear from the outset that the learning process is expected to continue long after the end of the teaching course.

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ADOLESCENT ATTITUDES AMONG MINORITY ETHNIC GROUPS

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ABSTRACT

This paper reports an investigation into the attitudes of adolescents among minority ethnic groups. Major findings were; 1) A general similarity exists between cultures, ethnic groups, and sexes towards all conceptual areas in the study. 2) Differences in attitude were not related to personality differences. 3) Attitudes of minority ethnic groups changed with length of stay. The implications for a multi-racial society are discussed.

I. INTRODUCTION

THE problems arising from the increasing number of coloured immigrants in this country have produced many studies in Britain during the past decade as educators and sociologists have become aware of a new situation, i.e. a multi-racial society, particularly evident in our large cities and industrial areas. Unfortunately, very few of these studies can be classified as rigorous research and accordingly objective information, and an assessment of the many factors involved in the present situation is urgently needed. In this connexion, cultural differences and both cultural and racial prejudice have, as yet, been relatively enexplored in relation to the schools. Clearly, if we aim to facilitate better conditions for academic and social learning it is important to find out how the incoming groups perceive and misperceive the host community and how such perceptions can improve or deteriorate. Since learning itself, the growth of self-concepts, and levels of aspirations are bound up with group indentification, this would appear to be very relevant to the school and classroom situation. In this context a comparative study of the attitudes of ethnic groups has particular relevance to these problems.

2. THE INVESTIGATION

The aim of the study 1 (1973) described in this article was to ascertain the differences, if any, between English, West Indian, Indian and Pakistani adolescents in Britain, in their attitudes towards personal, social and cultural materials, and whether such differences were a reflection of personality rather than cultural diversity. The main areas of interest were in attitudes towards significant figures, places and activities.

Recent researches into school pupils' attitudes have shown that such studies can provide useful information for educationalists over a wide range of topics, and in this connexion the versatility of the Semantic Differential technique for measuring attitudes was noted. Past research into ethnic groups often involving some aspects of racial prejudice or adjustment factors has indicated that in such studies the subjects should preferably be adolescents and the basic dimensions of their outlook and personality dynamics can be profitably related to personal, social and cultural materials; e.g. self, home, neighbours. Since it was it was anticipated that racial factors might be involved in this research, in addition to comparing the more general attitudes of the various ethnic groups, an innocuous yet objective method of assessment was preferred.

The subjects were English, West Indian, Indian and Pakistani boys and girls (except Pakistani girls), 100 in each group, aged 14–16 years, randomly selected from fourteen secondary schools in the West Midlands. The total sample was therefore 700. Reading ability and social class of the subjects was controlled. In this connexion a minimum reading age of 10.0 years was required and the sample was drawn from categories 3–5 of the Registrar-General's Classification. In addition all West Indian, Indian and Pakistani subjects had coloured parents and in the case of the latter two groups both had originated, prior to coming to Britain, from either India or Pakistan. Boys and girls in the minority ethnic groups were also subdivided into two equal groups of fifty dependent upon length of stay. 'Long-stay' pupils were those who had resided in Britain for seven years or more and 'short-stay' for five years or less.

The subjects judged each of sixteen concepts, i.e. related to significant figures, places and activities, on scales taken from Osgood's (1957)[2] three dimensions.

The sixteen concepts grouped into THREE main categories were:

1) *Significant figures*
    Myself
    Myself as I would like to be
    My mother
    My father
    Teacher
    A friend I would like to have
    Friend
    A neighbour I would like to have
    A boy/girl friend I would like to have

2) *Significant places*
    Home
    School

3) *Significant activities*
    My future
    The job I think I would like to get when I leave school
    (State it before rating)
    The job I think I will actually get when I leave school
    (State it before rating)
    The standard of living I would like to have in ten years' time.
    The standard of living I expect I shall have in ten years' time.

They also completed the Junior Eysenck Personality Inventory which was used to ascertain whether attitudinal differences were related to personality differences.

3. FINDINGS

One of the most important findings of this research was the absence of a considerable number of significant differences between ethnic groups although the original hypothesis that significant differences would occur between the attitudes of all groups of adolescents towards all conceptual areas was partly substantiated in a number of attitudinal areas. In this connexion results showed a consistent uniformity of factorial structures across all the analyses indicating that irrespective of ethnic identity or sex, adolescents between the ages of fourteen and sixteen regard the same conceptual areas to be of prior concern, the most important of these being the desire to form friendships, a finding which is confirmed by previous researches in which indigenous and minority ethnic groups of pupils have been involved.

This general measure of agreement was also observed when attitudinal differences were considered separately between cultures, ethnic groups and sexes. This general similarity in responses to almost all attitudinal areas is a significant finding, and would seem to suggest that to some extent the integration of minority ethnic groups into the host society has already occurred. In addition it was confirmed that such attitudinal differences that did exist were due to cultural factors and were not related to differences in personality.

However, an interesting finding is that significant differences in attitude were found between culture groupings, i.e. between English and West Indian pupils (representing Western culture) and all the Asian pupils (representing Eastern culture). Such a finding reflects with interest upon any policy of social grouping of ethnic groups in schools where they may be regarded as distinct minority ethnic groups.

An important variable in this study which has made a significant contribution to the total interpretation of the results is the duration of stay in this country of immigrant groups. In this respect the hypothesis that attitudes would be affected by length of stay was substantiated. Attitudes, particularly those involving aspirations and expectations, are clearly affected by length of stay, those immigrants who have been in Britain the longest generally recording the more favourable attitudes. Such a result may reflect credit upon governmental policies over the past decade in furthering the development of a multi-racial society. One hopes that such positive findings continue to be discovered by future research and development into attitudes and other factors that are considered important in the individual and to education. In addition the finding may also reflect, to a certain extent, the policies expressed in recent years by leading immigrant organisations in which there has been a tendency to move away from assimilation and multi-racialism in preference for self-help with the attendant emphasis upon the value of their own cultural identity. Although the latter development may have contributed to improved attitudes of immigrants it is unlikely that the total finding can be attributed in this direction. Contrariwise the two suggested contributary factors should not be viewed as if they were in apposition but rather seen as parallel influences for positive change. It must also be stated however, that the aspirations of immigrants may well be high since the advent of the Race Relations Act which dealt to a large extent with discrimination in employment.

Many of the difficulties now facing the first generation of coloured school leavers are likely to be alleviated but as more of them acquire marketable skills and qualifications other problems will succeed them. These adolescents are obviously emerging with ambitions that their parents and predecessors could never have contemplated and such aspirational levels among minority ethnic groups are likely to increase. In this respect our society must ensure the existence of opportunities for the advancement and development of all individuals in all ethnic groups.

The findings of the research also suggest that the immigrant is aspiring to middle-class values in our society, a phenomenon which develops with increasing length of stay in Britain and supposedly the attendant sense of permanence, exemplified for example by such things as house purchase, children's education, job security and many others.

However it would seem that the adolescent immigrant experiences some difficulty in matching his high expectations, which in all probability are motivated by British cultural values, and as a result he becomes more anxious as he stays longer in Britain. It may be that he becomes less anxious once he is economically secure but when one considers the number of unemployed persons in the country and also takes into account the special difficulties and adjustment problems of immigrant families the issue at stake is a serious one. Such an issue warrants the urgent attention of government departments in their efforts to secure full employment, housing and other personal and social amenities for all citizens, both immigrant and indigenous, so that they may live harmoniously in our multi-cultural society. These problems are obviously being experienced most acutely in the urban areas where living conditions are generally worse than elsewhere and where the influx of large numbers of immigrants has only served to exacerbate the plight of these areas.

The success of schools in accepting their secondary roles as agents of socialisation for indigenous pupils and acculturation for the immigrants is dependent upon, the aims and attitudes of teachers, the affinity of parental attitudes with the school, and the attitudes and aspirations of the immigrants to themselves and their relationships to children of the host community. From the current research it would seem that the schools have been successful in the acculturation of the minority ethnic groups but unfortunately somewhat at the expense of the indigenous pupils who attach little or no value to the

education they are receiving. It would therefore appear to be of paramount importance particularly when considering the educational policy in predominantly multi-ethnic communities and specifically in multi-racial schools, to ensure that no ethnic group is, or appears to be, disadvantaged.

Length of stay has always been regarded as an important variable when discussing and evaluating the adjustment of immigrant families to their new environment in the host country and the evidence from the current study would indicate that such adjustment appears to be evolving with a considerable degree of spontaneity. There is considerable evidence from the current research to indicate that the adjustment to British culture has been and is being effectively achieved by the three largest minority ethnic groups, with some variation among the West Indians; the latter not altogether unexpected since many of the social problems of immigrant families have centred around this ethnic group. However in this connexion there is considerable evidence to support a promising observable tendency; i.e. that of the increasing stabilisation of the West Indian family unit, a feature which seems to have been already attained by the Asian immigrant. There is in this respect an indication that in terms of the development of self-concepts and aspirations among ethnic groups the West Indians have a much more positive attitude towards these areas than the Asians, particularly the Pakistanis. Since the latter group are generally the more recent immigrants to settle in Britain such differences will probably be resolved in the near future.

4. IMPLICATIONS

The implications of this research for a multi-cultural society are many, yet readily identifiable. They are positively orientated when one considers the general favourability in the attitudes of all ethnic groups, and negative when perceiving how some groups are obviously experiencing adjustment problems. In addition the attitude of the indigenous adolescents in multi-racial areas is one that warrants careful consideration. In the past the emphasis in such areas has understandably been upon the plight of the newcomers, possibly it would seem at the expense of the indigenous population. Obviously measures need to be implemented to ensure that all sections of the community in these areas receive equal consideration. Following such action future research workers could evaluate the effectiveness of these programmes. Future research projects could also consider

the attitudes and other factors considered to be important in the lives of adolescents in other multi-ethnic conurbations so that comparisons could be made between areas in relation to the policies that had been implemented.

The general conclusion of this research is however one of cautious optimism in so far as attitudes among all ethnic groups are generally favourable and there is considerable evidence, with minor reservations, that this trend will continue.

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CHILDREN'S JUDGEMENTS OF THE TEACHING PERFORMANCE OF STUDENT TEACHERS

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ABSTRACT

The study reported here is an attempt to isolate one limited aspect of the complex area of the pupils' view of school. This aspect is the perception of the teaching techniques of teachers in training. There are practical implications here for teacher training since these perceptions are potential feedback for student teachers. The study is an attempt to establish the degree of reliability and validity of pupils' perceptions and to develop a means of converting them into a readily available and relatively systematic form.

I. INTRODUCTION

CHILDREN assess their teachers almost as a matter of course. It does not follow that they are the best judges of the effectiveness of their teachers. Indeed, judgements may be too strong a word to describe the way pupils perceive the behaviour of their teachers and the attempts they make at communication and instruction. However, these perceptions may have some value as information about performance especially if they can be converted into some identifiable and relatively systematic form.

This raises some intriguing research questions concerning the consistency of pupils' perceptions, the aspects that they are competent to report on, and the validity of their assessments. If it can be shown that pupils do make some perceptions that are both reliable and valid, this may prove to be a useful source of feedback. Clearly, such feedback will have to be taken along with the other sources of information available, i.e. a teacher's self assessments, or a colleague's assessments. In the case of a student teacher, the information from pupils may be useful along with the judgements of supervising tutor, supervising teacher and student teacher self assessments.

2. PREVIOUS INVESTIGATIONS

Previous investigations into the characteristics of pupil perceptions of teaching behaviour undertaken mainly in the U.S.A., have proved to be encouraging. Veldman and Peck (1963) found that pupils' perceptions were reliable enough, and valid enough in certain aspects of performance, to be worth considering as feedback. The instrument used was a thirty eight item Pupil Observation Survey Report (POSR) developed from an earlier study by McClain (1961). However the interests of Veldman and Peck have been in the influences on pupil perceptions, (1964 and 1969) and the differences between pupil evaluations of student teachers and trained teachers, (1970) rather than in the use of this information as feedback.

3. THE PUPIL'S VIEWPOINT

One advantage pupils have is that they see a student teacher on many occasions and in a variety of situations. Moreover, they have many separate observations on which to base their judgements— many more than the supervising teacher or the supervising tutor. Their view is in one sense, more detached as the recipients of the attempts at communication and instruction, than the 'professionals' with their definitions of the situation. And although pupils are un-trained observers, they do have a vast cumulative experience of classrooms on which to base their interpretations and this might serve to reduce any possible biases of the other judges in the situation. The experience of the pupils is however limited to the small sample of schools that they have attended whereas some teachers and most tutors will have a wider experience in this respect.

Yet the validity and reliability of the perceptions of pupils cannot be taken for granted. Both need to be demonstrated.

However, a case could still be made out for the use of pupils' perceptions even if they were shown to be deficient in some respects, on the grounds that to know oneself as pupils see one is still useful information for a student teacher (Grobman 1969). Misinterpreta-tions of both actions and communications of a student teacher by the pupils might thereby be reduced or alleviated.

Another consideration is that pupils may view student teachers in a different light to teachers so that any application of this work to judgements of teachers must be made with care. In the case of pupils in the United States, such a difference has been demonstrated (Veldman 1970).

4. THE RESEARCH PROBLEMS

Some of the research problems have been outlined in other studies (Murray 1972). They include these seven tasks:

Establishing some means of converting pupils' perceptions into a readily usable form;

establishing whether these perceptions are consistent;

establishing the validity of these perceptions;

establishing those areas of performance where pupils are competent to judge;

investigating means of using these perceptions as feedback for student teachers;

assessing the reactions of student teachers to such a source of information; and

exploring the reaction of pupils to being consulted.

Quite a different range of problems is raised if the existing definitions of the situation held by the participants are questioned. Then pupils might be asked about their ideal or preferred modes of learning and teaching; supervising tutors about the ideal situations for preparing teachers; student teachers about their preferences; and supervising teachers about their views of an ideal arrangement. These are intriguing and important questions, but they are outside the scope of the present study which is based on the assumption that under the present arrangements, many student teachers will continue to be placed in classroom situations where they will have to establish themselves as competent performers within the existing definition of the situation as held by pupils, teachers and tutors.

5. THE EXPLORATORY STUDY

The study described here relates to a preliminary exploration of the first four of the problems listed above. The attempt was made during the first three week school experience of a group of postgraduate students in their certificate of education year in October 1973. For convenience, the students of the writer's own tutorial group were invited to take part and all fourteen agreed to do so.

The method chosen, mainly on the grounds of simplicity of operation, was to select a class or group of pupils that a student teacher had worked with at least twice and preferably several times, and to ask each pupil to write down his perceptions of their student teacher's performance in the classroom under two main headings.

These were 'Things You Do Well' and 'Possible Improvements'. Some cue questions were made available on the blackboard or introduced in some other way that seemed appropriate to the student teacher.

The cue questions were based on the report form filled in by supervising teachers at the end of each teaching practice. This form had four areas, Preparation, Technique of Presentation, Attitudes to Pupils and Class Management and Discipline. The cue questions were as follows:

(1) Preparation:	Do I prepare the lessons well?
	Are the lessons interesting?
(2) Technique of Presentation:	Do I speak clearly enough?
	Do I explain things clearly?
	Do I use questions well?
	Do I use enough teaching aids?
(3) Attitude to Pupils:	Am I strict enough or too strict?
	Do I treat you fairly?
(4) Class Management and Discipline:	Do I organise lessons well?
	Am I strict enough or too strict?

A suggested introduction to the pupils was to explain the purpose of the activity in their own words or some variation of the following: "I am training to be a teacher. I would be interested in your opinions about my teaching. I would first of all like to know what you think I do well. Then I would like to know how you think I need to improve".

Before obtaining the perceptions of the children in this way, the student teachers were asked to write out a self evaluation based on the same questions. The judgements of the supervising teacher were available in the usual way through the filling in of the schedule sent to schools by the School of Education. The fourth element of comparison was the judgements of the supervising tutor and these were written down using the report form for schools and the cue questions for children as guides.

The four sets of judgements were thus available for comparison. The only discrepancy here was that the supervising teachers did not have the cue questions so that their reports do not always cover

the same range of points as the other three sets of judgements. However, the supervising teachers had seen the cue questions when student teachers indicated their intentions to elicit the perceptions of the children. Three teachers were unenthusiastic about the whole idea and the net effect was that one student teacher did not proceed with the investigation. The two other teachers watched the experiment with interest and their initial doubts were reduced when they noted the serious manner in which most children responded to the requests of the student teachers.

6. RESULTS.

Eight students completed their part of the investigation as planned two in primary schools and six in secondary schools. One other judged that a discussion and recording of votes was more appropriate in his situation in another secondary school. Three were operating in a team teaching situation with integrated studies where a suitable opportunity to proceed did not present itself. One did not proceed with the investigation and another left the course.

The ages of the children involved ranged from ten years to sixteen years.

In all one hundred and sixty children recorded their perceptions of the nine students who completed the investigation.

Problem One: Finding a means of converting pupils' perceptions into a readily available form.

Some of the choices available here include group discussions, interviews with individuals, tape recorded interviews and discussions, and written comments.

Written comments have the attractions of ensuring that the judgements of all the children concerned are obtained and of relative ease of analysis and comparison. Studies in the U.S.A. (McClain 1961, Veldman 1970) have used a thirty eight iem scale, the Pupil Observation Survey Report (POSR). The advantages in the present study of basing the responses on the existing report form for supervising teachers were those of convenience and familiarity, particularly in this early stage of investigation. The use of other approaches including the POSR might be deemed suitable in later investigations.

However, the present relatively open form which comprised two general questions with supporting cue questions available for guidance, did appear to be a useful approach. The comments of the children were coherent and structured enough for the purposes of

general comparison whilst allowing some spontaneous remarks in addition.

The briefest remarks were written by the primary school children and here the use of tape recorded interviews and discussions may prove to have some advantages in the future.

Problem Two: Are the perceptions of the children consistent?

The most striking feature of the written perceptions of the children was the consistency amongst themselves of their judgements. The areas of disagreement were confined to two items and contradictions within a set of judgements were rather rare. This example is typical of the general pattern:

STUDENT 'A' 4th Year Pupils Mixed Comprehensive School
(Non-examination Group)   (n = 28)

	Positive Response.	Negative Response.	No Response.
Do I speak clearly enough?	27	1	—
Do I explain things clearly?	26	2	—
Do I treat you fairly?	25	3	—
Am I strict enough?	20	8	—
Are my lessons well prepared?	27	1	—

The response that showed most variation in this case was a cue question bravely inserted by the student:

Do I have any irritating mannerisms? Yes: 10   No: 18
(The ten positive respondents gave details!)

The consistency over the whole sample is indicated by the number of sets of perceptions given by a class or group where disagreement exceeded ten per cent. Seventy seven sets of perceptions were passed on the eight students and in only thirteen cases did the disagreement within a set exceed this figure. These disagreements were about these items:

		No. of cases.	= Disagreement Positive/Negative.
Preparation:	(Are the lessons interesting?)	1	60/40
Presentation:	(Do I explain things clearly?)	2	72/28 56/44
	(Do I use questions well?)	1	75/25
	(Do I use enough teaching aids?)	2	80/20 29/71
Attitudes:	(Do I treat you fairly?)	1	50/50

	No. of cases.	−Disagreement Positive/Negative.
Class Management: (Am I strict enough?)	6	70/30 55/45 33/67 39/61 30/70 75/25
Sets of perceptions where disagreement exceeded 10%	13	—

On the evidence of the exploratory study, the perceptions of children about the performance of the student teachers seems to be consistent in a high proportion of cases.

Problem Three: Are the perceptions of the children valid?

The validity of the perceptions of children is a rather involved problem. The method of trying to assess validity used here is to compare the perceptions of the pupils with those of the other judges in the field. If there is a large measure of agreement then some indication of validity is suggested. The judgements of the teachers were available on the standard report form used by the School of Education. The students wrote out a self assessment before asking the pupils to write down their perceptions and the supervising tutor's comments were also written down before the other reports were seen.

The most common pattern that resulted was that of agreement amongst all four sets of perceptions on a particular cue question. This accounted for fifty per cent of the cases.

The next most common pattern was that of a disagreement by one of the four judges. On particular items for particular students, the student himself disagreed with the other three. Likewise the supervising teacher was sometimes alone in his particular judgement. This also applied to the supervising tutor. But in no case out of the seventy seven sets of perceptions were the pupils in this position.

The other pattern that resulted was that of an even division amongst the judges. These coincided with those items for particular students where the pupils were divided amongst themselves on their perceptions.

The indications here appear to be that, on the evidence of this study, the validity of secondary school children's perceptions of student teacher performances may be quite high. Furthermore, they appear to be sensitive to those areas where the other judges are not

in agreement. Their opinions here might well be useful supplementary evidence.

Problem Four: On which areas of performance are the children judging competently?

From the analysis thus far, it seems that there are areas where the children judge with some competence since they both agree amongst themselves and with the other judges in the field. These areas seem to be:

(a) Preparation of lessons and interest of lessons.

(b) Some aspects of presentation, e.g. use of voice.

(c) Attitudes of student teachers to pupils, e.g. fairness.

(d) General organisation of lessons.

The areas where children appear to show less competence are those where they disagree amongst themselves and with some of the other judges. These areas seem to be:

(a) Some aspects of presentation, e.g. use of questions and teaching aids.

(b) Class control.

The question of class control was the subject of the most disagreement both amongst the pupils themselves and amongst the other judges. This is not surprising since the teaching profession as a whole seems to be very confused on this issue. (Meighan 1973).

6 CONCLUSIONS.

The purpose of an exploratory study may vary. In this case there were two main purposes. One was to establish in a general way whether children's perceptions of the performance of student teachers warranted some attention. The results suggest that they do. This is a similar conclusion to the studies in the U.S.A. by Veldman and Peck (1963). Even though children are untrained observers, the possibility that their perceptions are reliable and in some aspects, valid, seems to be a real one, and one worth investigating further.

The second purpose was to try out one form of converting children's perceptions into an analysable form. The approach using general questions with supporting cue questions, although the range covered by the cue questions was limited and rather arbitrary in selection, proved to be useful. An improved version may well be the basis of future studies. Alternatively, the use of the thirty eight item Pupil Observation Survey Report, (POSR) Veldman and Peck (1963) or a modified form of it, may be worth considering.

There are a number of intriguing associated issues in addition to these studied here. For example, one student teacher reported and the supervising teacher substantiated, that a 'difficult' class changed their general attitude from one of obstruction to one of co-operation immediately after completing their written comments. The possible effects on relationships of consulting children about their view of the teaching they receive, is a subject that raises some interesting possibilities.

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ACKNOWLEDGMENT

INFLUENCE ON ECONOMICS TEACHING: A STUDY IN TEACHERS' PERCEPTIONS

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ABSTRACT

This article reports a study of the influences on the choice of subject matter and teaching methods made by teachers of economics. It is based on the rating of 40 potential sources of influences which were generated by heuristic employment of a simple model of sources of influence. Findings suggest that, in the main, professional teacher influences are stronger than lay social influences, and that the generalized sources of influence are more complex than the simple model suggested.

I. INTRODUCTION

POWER in society takes many forms. People can be persuaded, coerced, manipulated by others, threatened by the sanction of the law or their behaviour controlled by a person in a higher position or by someone's superior knowledge. They can also be *influenced* by others, that is, they can be persuaded to adopt a line of action, an attitude or set of beliefs by those with whom they live or work, or in fact by almost anyone with whom they enter into social interaction.

Parsons (1963) argues that influence is an intangible property of the relationship between persons and is one among a number of ways of bringing about results, often by giving reasons or justifications for adopting a particular policy, plan or set of actions, though not always. Influence can be exerted by offering or witholding status or resources or some other socially valued good.

Teachers are in interaction with their colleagues, their pupils, the 'administration', with the local and national inspectorate, with educational decision-makers through their reports and pronouncements and with the public through parents, the press, radio and television, and it is likely that these persons and institutions, as well as others may influence what teachers choose to teach and how they choose to teach it.

2. STRUCTURE OF THE STUDY

In this study the question, "Is the teacher's choice of subject matter and teaching methods influenced by such persons and institutions, and from what source does the influence, if any, arise?" was asked of a sample of teachers of economics in schools and colleges.

In order to generate a reasonbly complete array of people and institutions which might influence what economics teachers chose to teach and the methods they employed, a simple model, which had proved its value in other studies, was used. (Taylor, Reid, Holley and Exon, 1974 and Taylor, Reid and Holley, 1974).

The model posited two dimensions, orthogonal to each other: local—national, along which such individuals and organisations as parents, political parties, the local education committee and the Department of Education and Science could be arranged, and professional—lay, along which H.M.I's, the Schools Council, rate and taxpayer and religious organizations would be found.

At the centre of the two dimensions was located those influences arising from within the School—for example, the teacher, the head or principal, the staff meeting and the pupils or students.

In all a list of 40 persons (see Appendix) and institutions was generated and the sample of teachers was asked to assess the influence of each one, first for their influence on the *content* of their teaching, and secondly on their *methods* of teaching, using a five-point scale ranging from 'very strong influence' (coded 5) to 'no influence at all' (coded 1).

3. THE TEACHERS

The sample consisted of 300 teachers of Economics in secondary schools and technical colleges and was a sub-sample of the membership of the Economics Association. Of these, 135, or 45%, responded to the invitation to complete a questionnaire. Of the respondents,

111 were men and 131 possessed university degrees. A substantial proportion—just over 70%—had a Postgraduate Certificate in Education, though fewer than half of these had received a specialised training in the methods of teaching Economics. All but 25 spent more than a third of their time teaching Economics, mostly for 'O' and 'A' levels of the G.C.E. Examination. About 25% were lecturers in colleges, slightly under 30% taught in grammar schools and a similar proportion in comprehensive schools. Of those teaching in schools almost three-quarters were either heads of department, or else in charge of Economics, frequently as the only teacher of the subject in school; this high proportion is almost certainly due to the small size of the Economics department in most schools, nearly 70% of this sample being in departments with three or fewer teachers. Nearly two-thirds of the sample had more than five years teaching experience, and about 60% had experience of employment outside teaching.

4. RESULTS

a) Influence on the Content of Courses

Table 1 gives the means and standard deviations of the teachers' ratings of the 40 influences, in order of mean influence.

TABLE 1

THE RATINGS OF THE PERCEIVED INFLUENCE ON THE CONTENT OF ECONOMICS COURSES

Person, Organisation and Istitution	Degree of Influence	Means	S.D.
16. GCE Examining Boards		3.98	1.42
12. Yourself	Strong	3.89	1.05
4. Writers of textbooks		3.53	1.00
	3.5		
7. Your economics pupils		2.89	1.10
35. National press, radio and T.V.	Some	2.86	1.06
2. Economics Association		2.81	0.86
	2.5		
*31. Other economics teachers in your school		2.33	1.16
*30. Your head of department		2.22	1.14
37. Short courses in *Economics*		2.21	1.18
22. University Economics Lecturer		2.20	1.02
25. Economics teachers in other schools		2.16	0.92

14.	Writers and lecturers	Little	2.00	0.96
19.	Informal staff group		1.96	1.10
17.	Curriculum projects		1.90	1.10
36.	Short courses on the teaching of economics		1.90	1.09
23.	Industrial&Commercial Organisations		1.82	1.04
29.	Potential employers		1.69	0.95
27.	Educational Press		1.57	0.82
3.	National reports on Education		1.52	0.81
		1.5		
32.	Heads of other subject departments		1.49	0.75
33.	Teachers in other subjects		1.49	0.76
6.	Formal staff meeting		1.47	0.97
40.	Political parties		1.46	0.83
15.	Admissions Tutors		1.42	0.86
24.	Schools Council		1.41	0.82
11.	NFER etc.	None	1.34	0.69
5.	HMIs		1.31	0.64
34.	Department of Education and Science		1.29	0.67
10.	Teacher professional associations		1.21	0.52
38.	Your head or principal		1.21	0.55
26.	Parents of your pupils		1.19	0.49
21.	Local teachers centre		1.12	0.44
28.	Deputy head or principal		1.12	0.37
20.	Local authority advisers		1.11	0.38
13.	Governors		1.09	0.40
9.	University Vice-Chancellors		1.07	0.39
18.	Religious Organisations		1.07	0.38
39.	Rate and tax payer		1.06	0.27
8.	Local Education Committee		1.03	0.17
1.	Chief Education Officer		1.02	0.15

*In many instances there was no head of department and no colleagues also teaching economics.

Three influences were rated as 'strong': G.C.E. Examining Boards, the teachers themselves (Yourself) and Writers of textbooks. Of lesser influence but of some influence were rated pupils, the press, radio and television and the Economics Association. Less influence still is given by the ratings to many individuals and organisations who have some degree of professional concern with economics teaching: short courses in Economics, university lecturers in economics, economics teachers in other schools, short courses in the teaching

of economics. And a larger number of other professional people and institutions—H.M.Is, the Schools Council, Staff Meetings and university admissions tutors, for example, appear to be rated as having little or no influence at all.

The ratings of other Economics teachers, and heads of departments were probably under-rated. Economics in many schools is a minor subject, in many cases there was no head of department and no other teacher teaching economics. Other studies, however, have shown that colleagues and heads of departments are seen as strong influences. (Taylor et al op cit).

b) Influence on Methods of Teaching

Table 2 gives similar data to Table 1 but for perceived influence on methods of teaching. Again teachers (Yourself) are seen to have a 'strong' influence, stronger in fact on methods than on content. This is also true of pupils but not of writers of textbooks where the teachers' rating suggests a fall in influence, as it does for G.C.E. Examining Boards. The perceived influence of the Economics Association on teaching method remains the same as on content.

TABLE 2

RATINGS FOR INFLUENCE ON TEACHING METHODS OF ECONOMICS COURSES

Persons, Organisations and Institutions	Degree of Influence	Means	S.D.
12. Yourself	Strong	4.45	0.74
7. Your economics pupils		3.65	1.09
	3.5		
2. Economics Association	Some	2.81	0.92
4. Writers of textbooks		2.53	2.06
	2.5		
16. GCE Examining Boards		2.37	1.22
36. Short courses on teaching economics		2.35	1.20
31. Other economics teachers in your school		2.34	1.17
14. Writers etc. on educational issues		2.26	1.00
25. Economics teachers in other schools	Little	2.25	0.96
30. Your head of department		2.23	1.03
19. Informal staff groups		2.15	1.11
17. Curriculum projects		2.00	1.15
35. National Press, Radio and TV		1.82	0.93
37. Short courses on economics		1.82	1.03

32.	Heads of other subject departments	1.72	0.93
22.	University Economics Lecturers	1.70	0.91
27.	Educational Press	1.68	0.84
3.	National Reports on Education	1.52	0.85
11.	NFER etc.	1.51	0.81
		1.5	

23.	Industrial and Commercial Organisations	1.44	0.74
6.	Formal staff meeting	1.43	0.85
5.	HMIs	1.37	0.73
10.	Teacher Professional Associations	1.37	0.72
38.	Your head or principal	1.37	0.76
24.	Schools Council	1.36	0.67
29.	Potential employers	1.32	0.69
26.	Parents of your pupils	1.29	0.66
15.	University Admissions Tutors None	1.26	0.65
28.	Deputy head or principal	1.25	0.59
34.	Department of Education and Science	1.24	0.54
20.	Local Authority Advisers	1.15	0.50
39.	Rate and tax payer	1.13	0.49
13.	School or College Governors	1.11	0.40
21.	Local Teachers Centre	1.11	0.36
40.	Political Parties	1.10	0.34
33.	Teachers of other subjects	1.08	0.92
1.	Chief Education Officer	1.05	0.25
8.	Local Education Committee	1.04	0.24
9.	University Vice-Chancellors	1.04	0.23
18.	Religious organisations	1.04	0.27

Heads of other departments in the school rise somewhat in influence, as does the Formal Staff Meeting and the National Foundation for Educational Research. Short courses in the teaching of Economics rise and, as one would expect, courses in the subject matter of Economics decline. There is also a marked fall in the perceived influence of the national press, radio and television. Industrial and commercial organisations and potential employer also fall in perceived influence on teaching methods relative to their influence on the content of courses in Economics.

The overall picture is that perceived influence on teaching methods is generally smaller for most of the persons and organisations than it was on the content of courses with the exception of teachers and pupils where it is seen as rather stronger.

5. THE STRUCTURE OF INFLUENCE

A further question that arises in connection with data of this sort concerns the extent to which the set of influences can be subdivided not so much on the basis of *a priori* meaning, no matter how rational it may appear, but on the basis of the responses which teachers gave. The statistical technique of factor analysis was used for this purpose. Essentially, factor analysis is a means of deriving a relatively small number of constructs which represent in an economical way the variation among teachers in their ratings of the original items. In the present case factor analysis, a Principal components followed by a varimax rotation was used as an exploratory device to suggest an empirical grouping of items which might confirm the underlying model or else suggest an alternative. Furthermore, the results of the analysis might suggest groupings for the influences on content which differed in important ways from those arising from teachers ratings of the influences on teaching method. Two factor analyses were therefore performed, one each on the rating of influences on the content of courses and teaching methods respectively. Since the results of the analyses were similar in important respects they are treated together here, with the similarities and differences discussed for each factor separately.

Factor 1. Expert and Advisory Influence

This relatively small factor arose in both analyses in a very clear and similar way. It was the third factor to emerge for teaching methods and fifth for content; it contributed 8.3% and 6.0% of variance respectively in the two analyses. Highest loadings in each case were for:

37. Short courses in Economics
36. Short courses in *teaching* Economics
5. H.M.Is
34. Department of Education and Science

The factor clearly represents the area of influence that arises from the experts concerned with advising teachers, and with running courses for them, and from which they gain further expertise.

Factor 2. Administrative Bureaucratic Influence

While this factor was clear in both analyses, there were some interesting differences in the two groups of highest loadings. The

contribution to variance was 9.2% in the case of content, and 10.5% in the case of teaching methods. Loadings above 0.4 arose from both analyses for:

1. Chief Education Officer or Director of Education
13. School or College Governors
8. Local Education Committee
9. University Vice-Chancellors
6. Formal staff meeting

All of these are primarily concerned, in their different ways, with administration. Only the Vice-Chancellors are not concerned with the administration of schools and colleges. In the case of perceived influence on teaching methods the following also had high loadings on this factor:

38. Head teacher or principal
28. Deputy head or vice-principal
30. Your head of department

On the other hand the factor analysis of the ratings for influence on content yielded high loadings for:

20. L.E.A. Adviser or Inspector
21. Local Teacher's Centre
5. H.M.Is

It seems that in respect of teaching methods teachers see their superiors within the school hierarchy as part of the administrative structure to which they also assign people such as governors and chief education officers. Where influence on content is concerned, however, they set both local and national inspectors alongside the latter. In part this may be due to the fact that there are relatively few inspectors who are expert in the content of Economics, though they can certainly contribute to any individual teacher's problems of teaching method. In the latter case they are, therefore, more appropriately grouped with the experts (they do in fact have higher loadings on that factor) than with the administrators. On the other hand heads are seen as experts in neither respect: even though they have often been successful teachers, members of their staffs tend to be unmindful of this. It may be that they are aligned with administrators in matters relating to teaching method because they control resources, the availability of which can influence teaching methods in a way which is not true of content.

Factor 3. Internal Staffroom Influence

In each analysis one factor produced high loadings on these items:

31. Other Economics Teachers in your school
30. Your Head of Department
19. Informal Staff group

These three items suggest the existence of influence arising from within the Economics Department of the school or college, and from friendships with staff who may or may not be members of the Economics Department. In the teaching methods factor analysis only one other item had a loading of above 0.4 (only just) and that was negative, namely:

18. Religious Organisations

The appearance of this item is not readily explicable and may be due to chance; if not, it suggests that teachers of Economics see religious organisations as in some sense the opposite of collegial.

Where content is concerned, however, several other items contribute to the factor. Most of these are internal to the school, but they suggest that internal influence on content is seen as spread over a larger number of individuals than is internal influence on teaching methods. Teachers appear to believe that influence on their teaching method, insofar as it arises from within the school, derives in particular from informal contact with a relatively small number of other members of staff; on the other hand they believe that teachers of other subjects, their own pupils, and formal staff meetings exert a form of influence on content which is similar to that exerted by their more informal contacts.

This factor contributed 7.9% and 4.9% of variance respectively in the content and teaching methods analyses.

Factor 4. National: Professional Influence

This factor contributed 12.7% of variance in the content factor analysis, and 10.8% in the teaching methods analysis. In both cases the highest loadings were:

24. Schools Council
14. Writers and Lecturers on Educational Issues
1. N.F.E.R.
2. Economics Association

Loadings above 0.4 appeared in both analyses for the following additional items:

27. The Educational Press
3. National Reports on Education
25. Economics teachers in other schools
17. Curriculum Projects

Most of these items are influences on a national rather than local level, and all of them are concerned with education in a professional way. A further feature common to most of these items is their concern with new developments in education, and with imparting information to schools, colleges and teachers.

Factor 5. Socio-political Influence

The fifth and final factor contributed 7.9% of variance to the content factor analysis, and 10.2% to the teaching methods factor analysis. The difference between the two factors in respect of the items with loadings was marked, but the highest loading in each case was for:

35. National Press, Radio and T.V.

In the case of the content factor analysis the following items also loaded at above 0.4:

40. Political parties
38. Your Head Teacher or Principal
18. Religious Organisations
39. Rate and tax payers
12. Yourself

What these items have in common appears to be a concern with political problems in the broad sense. It is of some interest to note that in matters of content, the head is seen as a quasi-political influence; this is much less true in the case of teaching method, the head's loading on the corresponding factor being only 0.35.

In the latter analysis the following items have very high loadings:

32. Heads of other subject departments
23. Industrial and Commercial Organisations
29. Potential Employers
16. G.C.E. Examining Boards

Together with the mass media (item 35) these loadings suggest a form of influence largely external to the school, or at least to the Economics Department—hence the description of the factor as a socio-political one. However, loadings above 0.4 also appear for the following items, most of which represent influence internal to the school, or to Economics as a discipline, or both:

4. Writers of Economics textbooks
26. Parents of your pupils
33. Teachers of other subjects
22. University Economics Lecturers
27. Educational Press

Thus it may be that, in the case of teaching methods, this factor is best described as a non-expert factor, where the expertise in question is in methods of teaching rather than in the subject of Economics.

The two analyses resulted in remarkably similar factor structures; with the exception of the last factor discussed, the differences between the two analyses seemed readily explicable. Teachers of Economics seem to see influence on their teaching methods and the content of their teaching as arising from experts, administrators, their close colleagues and those national bodies and persons who are particularly concerned with generating educational change and with ensuring the flow of information of relevance to Economics. In the case of teaching methods the fifth factor may represent a non-expert form of influence, perhaps even what teachers see as illegitimate influence, emanating largely from outside the school. On content, though, they see a group of influences which can broadly be characterised as socio-political.

6. DISCUSSION

The first point to emerge from this study is that teachers of Economics see themselves has having a strong influence over *both* content *and* method. In the first instance, they see themselves sharing this strong influence with examining boards and with writers of text books. In the second, only with the pupils whom they teach.

It would seem that the perceived world of the teacher of Economics is one in which what he teaches is markedly, but not overwhelmingly influenced from outside the classroom (and this is supported in the ratings of press, radio and t.v. and the Economics Association). He, to a marked extent and his pupils to a lesser one, play a part, perhaps together setting limits to the influence of the examing boards and the writers of text books, though in their turn being circumscribed by them in what they may teach and be called upon to learn. Relative to these influences many other educational and social influences play but a peripheral part—or so the teachers see it. And the influence on teaching methods is seen to lie almost entirely within the classroom, in the hands of teachers and taught, in a sense "negotiated" between the two for their mutual benefit. Of teaching it has been said that it is a game in which both teacher and taught win or both lose (Bellack 1966) and in the combined data of the perceived influence on teaching methods and the content of courses is evidence of the compact out of which both teachers and

taught work towards one form of educational achievement, viz. success in examinations.

The data also suggests that the teacher of Economics sees himself as remarkably free from the influence of many who may well seek to influence both what he teaches and how he teaches it. Free though he sees himself, he does not see his freedom from influence as absolute. He accords many individuals, institutions and organisations 'some' or 'a little' influence, and in imperceptible ways they may in the long term influence what is taught in Economics and how it is taught.

The generalized sources of influence as seen by the teacher do not lie within the framework of the simple model employed originally. The structure of the perceived influences of the teachers separate the influences into categories of function; to that of administration, the provision of advice and expertise, to that of dealing with issues which have become a matter of contention and debate, which is the function of the political system, to that of providing criteria to govern professional conduct which collegial influences which transcend the interests of the individual teacher do, and finally to that of making tolerable interactions with the teachers' immediate colleagues in both formal and informal settings. Thus the influences which the teacher of Economics believes to be exerted on his choice of subject matter and teaching methods would seem to be complex, to be composed of spheres or sub-systems of influence which operate in different ways, and through different media to delimit his freedom of action or to direct it into new channels.

Exactly how each sphere or sub-system of influence works to convey its influence we do not know, nor by what media. Nor do we know whether or not they function in the real world. All this study has been able to accomplish is to postualte their form, their strengths and structure, based on the perceptions of a sample of teachers of Economics. It will be for other studies using field work techniques to 'prove' that the teaching of Economics is influenced in the ways suggested.

APPENDIX

Persons, Institutions and Organisations rated for Influence.
1. Chief Education Officer or Director of Education
2. The Economics Association
3. National Reports on Education (e.g. Crowther, Robbins)
4. Writers of Economics Textbooks

5. H.M.Is
6. Formal Staff Meeting
7. Your Economics pupils or students
8. Local Education Committee
9. University Vice-Chancellors
10. Teacher Professional Associations (e.g. AMA, NAS, NUT, ATTI)
11. National Foundation for Educational Research and similar research bodies
12. Yourself
13. Your School or College Governors
14. Writers and lecturers on educational issues
15. University Admissions Tutors
16. G.C.E. Examining Boards
17. Curriculum Project (e.g. Humanities Project, Sixth Form Mathematics Project, Nuffield Projects, Manchester Project)
18. Religious Organisations
19. Informal Staff Groups
20. Local Authority Advisers or Inspectors
21. Local Teachers' Centre
22. University Economics Lecturers
23. Industrial and Commercial organisations
24. Schools Council for Curriculum and Examinations
25. Economics Teachers in other Schools or Colleges
26. Parents of your pupils or students
27. The Educational Press (e.g. Times Educational Supplement)
28. Deputy Head or Deputy Principal in your school or college
29. Potential Employers of your pupils or students
30. Your Head of Department (if applicable)
31. Other Economics teachers in your school or college
32. Heads of other subject departments in your school or college
33. Teachers or Lecturers in other subjects in your school or college.
34. Department of Education and Science
35. National Press, Radio and Television
36. Short courses on the *teaching* of Economics
37. Short courses on *Economics*
38. Your Head Teacher or Principal
39. Rate and Taxpayers
40. Political Parties

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ACKNOWLEDGEMENT

BOOK REVIEWS

CYNTHIA MITCHELL, *Time for School* (Penguin, 1973).

THIS visually attractive and well-planned book provides a comprehensive guide to the background and day-to-day work in an infant school. Its message is not only useful for parents but for teachers and teachers in training. As stated on the front cover it is indeed 'a practical guide' to infant education.

The book is divided into two parts:

Part one: 'What is an Infant School' shows the diverse organisation and conditions that need to be taken into account when looking at a school. It deals with topics ranging from the school area, e.p.a., building, staffing to dress for school, parent and teacher attitudes.

Part two: 'What is Infant Education?' gives the basic principles inherent in infant education and their practice.

Cynthia Mitchell writes of the actual in the light of her own experience. She shows how the five year old with his past and present experiences fits into his role of pupil. At no time does her written style lapse into educational jargon, each aspect of the book being clearly presented. She is able to communicate the curiosity, interest and enthusiasm that children, parents and teachers should feel in the educational process.

Cynthia Mitchell holds the basic philosophy that if the educational process is to be meaningful to the child and his world, then parent-teacher relationship should be fostered to ensure that no gap is forthcoming. Her book goes part way to bridge this possible gap that often exists between home and school. One minor detail of regret; this book is so stimulating and informative—providing many of the answers that a practising teacher gropes for on parents evenings—that one feels a short bibliography would be useful and used for possible interests to be followed up at greater depth. Many parents would find the book sufficient but probably the sort of parent interested enough to consider, buy and read this book would be equally interested to follow up the various topics it covers. The tragedy is that the parents who would most benefit from such a publication, either through lack of money or motivation are the very ones who would fail to read it. The implications therefore remain: the school and its teachers must continue to transmit the message to parents, just as Cynthia Mitchell so capably wrote it.

WENDY DEWHIRST

PAMELA AND HAROLD SILVER, *The Education of the Poor: the History of a National School 1824–1974* (Routledge and Kegan Paul 1974, £3.95).

ENGLISH historians of education are already deeply indebted to Harold Silver for his pioneering work on Owen, for several valuable bibliographies and for his joint authorship of a Social History of Education in England. Now, in conjunction with Pamela Silver, he has produced a school history to set against the many already in print which deal with prestigious public and endowed grammar schools. While it may be a little pretentious to imply that one National School in Lambeth offers a base from which to write a history of the education of 'the poor', this is, nevertheless, a most useful book.

It attempts to tell the history of St. Mark's School, Kennington which, as the cover neatly shows, has occupied the same site its inception. Developments within the school are set againt national trends and considered also in the light of local changes. This is possible only because of the extensive primary materials which are available at the school, and the authors have made full use of log books, admission registers, and a wide range of other manuscript records. The first two chapters examine the financing and foundation of St. Mark's in the light of contemporary thought on the education of the poor, and of the rapid development of South London. The authors go on to examine closely various aspects of schooling during the early years of the school. They make stimulating, if all too brief remarks, on the implications of introducing fees in 1835, which may have begun a process which saw the school recruiting from better-off families by the end of the century. They show too, the very intimate connection of the school with local problems, most notably the fight against cholera in the early 1850's, which resulted in renewed interest in the building and its sanitation. During the school-board era, the school had become 'a local focus for parents who wished to do well by their children'. Several scholars won places at prestigious local schools, and St. Mark's entered the twentieth century in a far better state than many National Schools. Nonetheless, changes were necessary once the school came under the L.C.C. There were major alterations, welfare provision began to be undertaken, the scholarship system became more rigorous. The inter-war years saw major developments in the curriculum, just as the post-1945 period saw selection processes exercising a major influence upon what went on in the school.

This approach to the history of education is extremely valuable for the insights it offers to the constraints placed upon one school by wider social changes, and the book raises several problems which others working on local studies could usefully bear in mind. The individual school history has, in my view, two major drawbacks. It may tend to underemphasize the uniqueness of the institution being studied: so, in this instance, the

fact that this school continues on its original site and remains relatively small, sets it apart from many of its rivals. Some of the questions raised by the Silvers would be best resolved by reference to several contrasting schools (the influence of locality on curriculum, for example, or the extent to which the building acts as a constraint). My second reservation is that many of the problems which are raised by a study of the relationship between the locality and formal educational agencies can be resolved only by examining all of the schools serving one area. So, the authors' very pertinent remarks on the social composition of the intake of St. Mark's leave at least one reader hungry for more information on the intake of local endowed schools, ragged schools, board schools, and post 1903 council schools. Perhaps they may be tempted to extend their local research to offer an analysis of the 'social function' of Lambeth schools viewed in this way.

Yet this remains a valuable contribution to the history of education; Pamela and Harold Silver are to be congratualated for compressing so much into a relatively slim volume, which yet contains a useful bibliography and index. We look forward to further volumes in the Routledge library of the History of Education.

R. A. LOWE

JEREMY TUNSTALL (Ed.), *The Open University Opens* (Routledge & Kegan Paul, pp. xx+191, £2.50).

THIS collection of essays can be classified neither as 'instant journalism', nor as a comprehensive and authoritative appraisal of the structure and development of the Open University; but it has a distinct leaning towards the former, in that its thirty-three contributions, varying in length from 2 to 15 pages, suffer from unevenness, overlap and occasional failures to dig below the surface of arguments or work out their implications. Moreover, in contrast to the excellence of the O.U.'s handling of far tougher material, its format and presentation are incredibly dull. Yet, whether through the vitality of the institution itself or some subtle magic wrought by the editor, it succeeds in giving the 'feel' of a new and complex organisation, in conveying something of the freshness and enthusiasm of its staff and students (particularly the latter), and in identifying the far reaching effects it may have on the nature of public education.

For anyone interested in innovation even a limited account of the setting up of the Open University makes worthwhile reading, and here the interplay of ideas and personalities, the touch-and-go circumstances of the launching, and the deft improvisations which followed are highlighted rather than obscured by the multiplicity of viewpoints, the breathless recital of facts and events and the juxtaposition of description and reflection.

We are told almost casually that 'The need for a full-scale publishing and design organisation . . . seems to have become apparent only a few months before the first books were due to reach the students', and the discovery by over sanguine academics that producing a Foundation Course involved rather more than 'brightening up . . . lecture notes and professional papers' comes as an almost inevitable dénouement. Much that was planned and heralded, such as the use of radio and television, turns out to have been of relatively minor significance. Much that was unforeseen, such as the problems and implications of a team approach to the production of course units, seems to have been potent in giving the Open University its own special brand of 'openness'.

This 'openness' lies not so much in freedom of access (as the book makes clear, it is very far from being an 'open door college'), but in the way it designs and disseminates its courses. Curricula and teaching methods are public property; what it means to obtain an Open University degree is plain for all to see, not something to be divined, inferred or taken on trust. The implications for the educational establishment are unfathomable: the survival of ill-taught and ill-planned courses in conventional universities is put in question; resistance to change by invoking alleged 'standards' which are open to no sort of scrutiny may cease to be a viable tactic. In wilder moments of imagination one might even envisage the extension of O.U. methods to the sixth form and the final demise of the absurd metaphysics of the breadth/depth argument.

It would indeed be fitting if the revolution which freed education from the grip of academic orthodoxy were one which started almost by accident and succeeded by serendipity. It might, after all, reconcile us to our 'laissez faire' style of educational policy-making which so often frustrates the best endeavours of those who try to bring about change through rational planning.

<div style="text-align: right">W. A. REID</div>

PETER HERRIOT, JOSEPHINE GREEN AND ROY McCONKEY, *Organisation and Memory: A Review and a Project in Subnormality*. (Metheun, 1973, £1.25).

AS THE title indicates, this short book contains a review of research into the organisation of information in memory and an account of research on memory organisation in the educationally subnormal. The review occupies the first half of the book and contains a useful concise consideration of work on the structure of memory. Careful attention is paid to defining the terms used and to discussing the inferences that can be made from experiments. The survey is, however, limited to only one method of studying the organisation of memory: the order of recall of words in a list.

The research project studied the memory structure of subnormal subjects in a series of twelve experiments. For all but one experiment the subjects were adults. The results suggested that many subnormal individuals are able to use organisational strategies in recall, and that both cues and instruction could improve performance. The care with which the experiments were designed and analysed provides a useful pattern for other investigators in this field.

Stylistically the book is not easy to read and the use in the text of numbers, rather than name and date, to indicate sources is irritating.

R. J. RIDING

DICK FIELD and JOHN NEWICK (eds.), *The Study of Education and Art* (Routledge & Kegan Paul, £3.80).

IT IS unusual in this country to find a group of tutors working at one specialised institution, at least in the field of Art Education, who are prepared to put their thoughts and ideas into writing within the context of one volume. One would normally expect this to be the case when a group of staff is constantly putting an emphasis in a particular direction, and wishes to expound this from a variety of angles.

Here, as far as I am aware for the first time, is a work written by staff either working at or associated with one institution, the London University Institute of Education. On the surface, these articles deal with many different aspects of Art Education, and do so from a variety of standpoints, and would thus appear to bear little relationship to one another. However, some of the threads become obvious after a while.

There are indeed many riches in this book; a difficult one to review, for each writer has a mature and hence unique point of view. If one looks for trends, it is possible to isolate many that are important to education as well as art education. An important one for me is contained within an article by Mel Marshak 'Art Education in relation to Psychic and Mental Functioning'. Many people are dissatisfied with accounts of the creative act as a describable chain of causality, what one may call problem solving analysis plus 'ingredient X'. Marshak does not say anything really new in this context, but quite rightly turns our eyes backwards to earlier writings to emphasize the point that human consciousness is unable to comprehend self awareness of thought process in any reductionist sense, and indeed, if a person should try to do so, it can often inhibit the quality of a conclusion or action. In an article 'Education in the Arts', Professor Perry strengthens the view that to divide a description of education into cognitive centre, and non-cognitive penumbra (perhaps what in another context may be referred to as the affective area) may be useful (although

Marshak does not go that far) from the point of understanding mental process, but it is not so for the actual process of education.

It is fashionable to follow this holeistic view of the educational process with a plea for greater integration of subject area, and the arts area is no laggard in this direction, but until we reach this point, I think one would prefer to follow the path of greater understanding of the part that art really has to play, not only in the curriculum, but the life of the school; and consequently how one should approach the teaching of it. Collectively, although the comments of Marshak and Perry may be concerned with different areas of analysis, they would seem to throw an interesting new light upon a 'post-Bauhaus' approach that seems to have little to offer other than a trend that is aimed at, in Professor Perry's terms, the cognitive centre, rather than the non-cognitive penumbra; and in a similar way, what I can only describe as neo-Atlantic attempts at pupil self evaluation, must be viewed with at least suspicion if one is to take note of Mel Marshak's point of view.

Dick Field in 'Art and Art Education' takes a cool and interesting look at styles of Art Teaching, and points to the work of Cizek and Marion Richardson, as people who could perhaps be accused of 'over suggestion' at the start of a lesson. He says that, in fact, this is a misconception and that more may have been happening than mere suggestion. Contemporary art teaching is afflicted by an emphasis on problem solving approaches as reflected in the Diploma course that students will have completed. It may be that the time has come for a reassessment of earlier practice in the light of recent doubts about the deadening effect of the problem solving approach to syllabus, some of which have been voiced in the two articles I mention above. Perhaps the pendulum is starting to swing once more.

I have only outlined what, for me, is a thread that connects three of the articles in this admirable work. The book is full of other interesting and provocative threads written by Louis Arnaud Reid, John Newick, Rosemary Gordon and Sonia Rouve, as well as the writers already mentioned, all of whom open points for discussion, something that this important work is bound to stimulate.

MICHAEL STEVEN

INFORMATION FOR CONTRIBUTORS

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FREEDOM AND SOCIAL CONDITIONING*

by EDMUND R. LEACH

Provost, King's College, Cambridge

I. INTRODUCION

THE theme of my lecture is the relationship between conformity and non-conformity. This seems to me particularly appropriate for an occasion when we do honour to the memory of Sir Raymond Priestley for the record of his life is one of striking contrast in just this respect. He was born in Tewkesbury, he went to school in Tewkesbury, and he was still a resident in Tewkesbury when he died earlier this year. That suggests a steady adherence to cultural traditions established in infancy. Yet before the first World War he had been a geologist of Scott's tragically successful expedition to the Antarctic which suggests a spirit of high adventure and individualism.

And something of the same tension between individual self expression and respect for established traditions seems to mark most of the later phases of his varied career. For example, between 1922 and 1934 he was a Fellow of Clare College, Cambridge, where I knew him slightly while I was an undergraduate. Before he left that post to go to Melbourne and then to come here to Birmingham, in both of which places he was a notably successful and innovating Vice-Chancellor, he had wholly abandoned the academic side of things to become Secretary-General to the Faculties, in effect the top bureaucrat in the most conservative university in the world.

This tension between personal independence and the demands of our social environment is something which all of us experience in varying degree though we react to it in very different ways. My present concern is with the nature of that tension and its implication for educational policy. Roughly speaking the problem is this:

When any individual performs any action it always seems to him, the actor, that he is *choosing* to do this rather than that. To the outside observer on the other hand it usually appears that he is

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simply conforming to custom; upbringing has conditioned the actor to respond to particular signals in the external environment in particular ways, and that is how he in fact behaves.

Which view is correct? Can I, as actor, defy my conditioned responses and exercise my 'freewill' so as to do something genuinely unexpected and out of pattern.

Since this problem has exercised the minds of philosophers and professional psychologists for at least 2500 years I am not likely to be able to say anything particularly new about it. But there are some aspects of the puzzle which deserve more attention than they usually get.

2. FREEDOM AND CHOICE

First of all I must stress that I am interested in non-conformity in the sense of individualism, and *not* just non-conformity in the sense of membership of a faction which sets itself up in opposition to those who exercise established legitimate authority. Non-conformity of the latter kind is not an exemplar of the exercise of freewill at all; on the contrary, it usually exhibits the characteristics of slavish adherence to cultural pattern in a most extreme form. No one is more conventional or lacking in originality than the student militant with his stereotyped slogans, foul language, demos and modes of dress.

Secondly I must ask you to distinguish freedom in the sense of freewill—the capacity to make choices—from political freedom—that is freedom from the domination of others, though certainly there are times when these two kinds of freedom become much mixed up.

Absolute political freedom is quite hypothetical and a wholly impractical social condition. Man is a social animal; he cannot survive by himself as an individual; he is fundamentally dependent on others from the moment of his birth. Human society is a network of person to person relationships; relationships are manifested in rights and obligations. A father has rights and duties vis-à-vis his son; the son in turn has duties and rights vis-à-vis his father; and so it is with all paired relationships—husband/wife, employer/employee, teacher/pupil, and so on and so forth. No individual is free from social ties and no society could work at all if more than a tiny minority of the total population was free from social constraints of the most diverse kind.

It is easy enough to become emotionally sentimental about the individual's natural right to liberty, but the philosophers who have been most vocal on the subject have always been lavishly provided with servants and public services! Mostly they have been aristocrats in such societies as Classical Athens and the newly independent United States, where chattel slavery was widespread and institutionalised. In such circumstances Liberty is a label for the privilege of a small ruling clique who stand above the law.

In Plato's *REPUBLIC* the Guardians are, after a fashion, free to make decisions, but their relationship to those they govern is that of Master to Slave. The slogan of the French Revolution: "Liberty, Equality, Fraternity" might have been rephrased ... "Let us all behave like irresponsible aristocrats". The resulting social system collapsed within four years. Thomas Jefferson who coined that spendid passage in the American Declaration of Independence which reads:

> "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness".

remained a slave owner throughout his life.

But the worry that I want to pursue is rather different. It is not—'Can there be individuals who are free because they are above the law?'. The answer to *that* question is clearly 'yes'. Any political dictator is free in this sense. My problem is: 'Can there be individuals who are free in that they are not bound by the constraints of custom which have been instilled into them through the circumstances of their upbringing?' Here the position is much less clear. When a Hitler, or for that matter a President Nixon, believes himslef to be above the law and acts accordingly, is he really making a 'free choice' or is he simply responding to a compulsive inner drive which springs from the circumstances of his social conditioning?

The answer that we give to that question has fundamental significance for anyone interested in the theory of education. For what is the purpose of schooling? If all adult behaviour is simply a response to social conditioning, then the most we can hope for is to design a total educational system which will promote the maximum proportion of 'correct' responses ... whatever that might mean. If on the other hand adults can sometimes exercise 'genuine' free choices, we should perhaps first consider whether it is at all desirable that they should

do so, and secondly we should ask ourselves whether differences in types of schooling are likely to have any bearing on the outcome.

As an anthropologist and would-be scientist my own position ought to be unambiguos. Unfortunately it is not. Man is part of the animal kingdom. The process by which modern man has evolved from earlier hominids is more or less understood. Mendel and Darwin and the more recent Crick-Watson discoveries together provide us with a mechanical theory of biological evolution which fits in so well with the available evidence that it cannot be far wrong. This modern theory of evolution leaves no room for metaphysical miracles. There have been no discontinuities in history. The differences between one living species and another are of degree rather than of kind. The basic biochemical genetic machinery is the same for all.

So if you claim, like Descartes, that "I think therefore I am", and if you believe that this self-conscious 'I' is capable of making moral choices, then it would seem that you must either assume that rabbits and earthworms can also make moral choices or you must repudiate the Darwin-Mendel thesis altogether and maintain that, despite all appearances, the brain and nervous system of man *is* quite different *in kind* from that of other living creatures. For if you believe that man is different in such a fundamental respect from other animals, then you have to presuppose a discontinuity in history . . . a point in evolutionary time when conscious souls capable of making moral decisions suddenly came into existence. This of course was precisely what worried the theological opponents of Darwin in the 19th Century. Darwin was seen to be challenging the traditional doctrine that Man is a special creation uniquely capable of making moral judgements.

We can see now that the issue is not as simple as that but the puzzles remain. It is true that in the mutually consistent models which have lately been developed by the geneticists and the physiologists, the experimental psychologists and the ethologists, each animal organism appears as a biochemical machine delicately adjusted by its genetic endowment to operate efficiently in a precisely defined environmental niche to which it has become adapted by evolutionary selection. Furthermore, each creature and species of creatures responds to changes in the environment in a purely physical and mechanical way in accordance with statistical principles which are already more or less understood.

It is also true that the scientists who conduct the experiments

which lead to these behaviourist mechanistic conclusions take it for granted that Man is a mechanistic animal like any other. And yet it is quite clear that each individual experimentalist thinks of himself as in some way privileged. As individuals the scientists feel that they stand above the laws of nature which they seek to unravel. The animals they study are machines; they, the observers, are not. Biologists of the more sophisticated sort admit that they are being inconsistent. All would-be *social* scientists are caught in the same kind of trap.

If I am justified in believing that, in any circumstances whatsoever, I can make decisions which are genuine intentional choices, and not just automatic conditioned responses to my environmental situation, then clearly I ought to hold that the same is true of all other individual human beings. And that seems to rule out any idea of a science of human behaviour. Some people think that they can get out of this difficulty by resort to statistics. Individuals exercise choice when making individual economic decisions but the collective result of a whole set of individual decisions is determinate and predictable.

Unfortunately this is a matter of faith rather than demonstration. Economists have proved adept at explaining retrospectively just why particular macro-economic sequences of events happened as they did; but their predictions about what is going to happen next appear, to the outsider, to be almost consistently wrong. Notoriously if you seek the advice of a hundred different economists they will give you a hundred different opinions. Obviously some of them are bound to be more on target than others, but this can hardly be described as scientific prediction. And in any case my concern in the present context is with individuals rather than collectivities.

In what sense am *I* other than a machine?

This is a personal problem but since I accept the neo-Darwinian view of evolution, it can be rephrased as before:—In what way are human beings being different from other animals? We could probably go on arguing about that all night but my own short answer, which was also that of Rousseau and Vico and many other giants of the past, is that Man has language and other animals have not.

3. LANGUAGE AND CREATIVITY

Language is a very peculiar phenomenon. Our capability for learning to speak and for learning to decode other people's speech is part of our genetic endowment. It has been evolved by selection. It is

part of our animal nature. But there are thousands of different human languages and any human infant is equally capable of learning any of them. No particular language is more natural or more primitive than any other; all individual languages are human inventions, products of culture, and we are developing new ones and modifying old ones all the time. Human language differs from bird song and the communication devices employed by other animals in a number of quite fundamental ways. The most important one of these is that it is infinitely flexible.

As I am talking to you now the actual words I use are ones which you have heard before and your ability to understand what I say depends partly on that fact. But the way I am arranging the words into ordered sentences is entirely new; it is my own private off-the-cuff invention, and yet you can still understand what I say—at least I hope so. That is a very extraordinary fact. It shows that the decoding mechanism in our heads by which we come to understand what other people say is a computer of a very complex kind; it is programmed to handle grammars of a high order of abstraction. We can understand what sentences mean because we can recognize that they conform to particular grammatical constructions and *not* because we have heard them before.

Another aspect of this same capacity is that even a young child can learn to speak more than one language, Chinese and English for example, and can switch from one to the other without any difficulty.

All this is very extraordinary but the experience is so commonplace that it is only quite recently that linguists and psychologists have come to appreciate the very complex nature of the biochemical mental processes that must be involved.

Research in this area is really only just beginning. But it is already clear that the way that children learn to speak and to understand the speech of others is very odd. In non-verbal spheres of activity most of a child's early learning is a matter of cultural conditioning. The infant receives external stimuli of various kinds and responds in various alternative ways. One particular response will yield psychological rewards which another will not. The rewarding response is thereby reinforced and quickly develops into a triggered reaction. A biochemical model for *that* kind of learning process is quite simple.

This standard pattern of 'learning through reinforcement' contributes to the child's early speech behaviour, but there is much more

to it than that. An adult's language is not just a sum of words and phrases which have been learned by rote by the child. On the contrary, the child's language is quite differently constructed from the adult's language. It uses different words and different constructions. When the child learns to speak it does not just copy the mother who is teaching it. Right from the start it seems to have a sense of grammar . . .that is to say, it appreciates that meaning depends upon the ordering of words and that words which describe actions and objects and qualities have different functions.

Moreover from the very start language learning is a two-way process. Even at the earliest stage the child begins to invent combinations of words which are not part of the parent's language. The parent has to learn to understand the child's language in the same way as the child learns to understand the parent's. Yet the child's language is not invented *de novo*; it is a *reconstruction* of verbal elements taken over from the parent's language. Baby language English is still English; it is not baby language Chinese. The child's inventiveness is expressed as transformation rather than creation.

This ability to *rearrange patterns* and then give meaning to the new arrangement may well be the crux of the whole matter. This has nothing to do with verbal language as such. Most adult human beings have a wide ranging capacity to code-switch between the different senses. For example, in our European system, a pianist can hear in his head the music that is represented in a printed score; he can also convert the notes of the score into movements of his fingers. As far as he is concerned, the score, the finger movements and the musical sound are all mutual transformations, different aspects of the same thing. When we convert speech into writing or writing into speech we are engaged in the same kind of transformational operation; it is as if we were translating Chinese into English or vice versa.

Another related point is that all our different sense images fit together. In ordinary waking life each of us is continuously receiving a whole variety of messages from the outside environment along the whole range of sensory channels—visual, auditory, tactile, and so on. But we fit them all together. The world that we see is felt to be the same as that which we hear and that which we feel and that which we smell. This again seems to prove that the decoding mechanism in our brains operates at a highly abstract level. The brain is able to fit the different sensory messages together by recognising in them a

common ordered pattern. Presumably this is true for all animals. It is just that we do the job in a different way and an element of uncertainty in *our* system of pattern recognition gives us the feeling that we can make intentional choices.

I have two further comments here. First: If by a trick you arrange that there is an incompatibility between the sensory messages, so that, for example, an arrangement of mirrors is made to produce the appearance of a solid object which you find is not there when you try to touch it . . . the effect is psychologically very disturbing. We have a deep rooted need for predicability in our surroundings. Second: When sensory images which have been laid aside in the memory store are brought back into consciousness they can be recombined in quite novel ways. Concepts such as 'imagination', 'artistic creativity', and so on, refer explicitly to this individual capacity for playing games with stored sensory images. The creativity of ordinary speech utterances is simply a special case of this faculty.

And that surely is where individual freedom lies. Like other animals we rely on our senses to provide us with an orderly reliable report of the immediate environment and we get very upset if they do not do so. But at the same time, as compared with other animals, we have a greatly enhanced capacity for rearranging the patterns which are presented to us through our senses, and then projecting the rearranged patterns back onto the external world.

As a consequence of this, human beings live in a man-made world, not a natural world. But although the man-made aspect of each particular cultural system differs in its superficial details from every other, it is clear that our capacity for playing games with the patterns in our surroundings is severely limited. Human order, as distinct from natural order, has to be relatively simple. The human world of houses and implements and roads and farmsteads and machinery is full of straight lines, circles, and simple geometrical shapes; events in social time are made to occur at regular numbered intervals. In other words, freedom of choice only operates within a framework of tight conformity. Yet the freedom is certainly there. We can cope with and indeed strongly approve of the unexpected, provided always it is not *too* unexpected.

4. EDUCATION AND SCHOOLING

I want to go back now and consider how far these somewhat abstract and philosophical speculations about the nature of

human creativity may have a bearing on practical problems of education.

Colloquially, and officially, the word *education* is now taken to refer to what goes on in schools and colleges and universities. It is thereby contrasted on the one hand with *rearing* (or any other expression which you may use to describe the home life of children before they start going to school) and on the other with *training* which is a label for apprenticeship or other means by which the late adolescent or young adult acquires practical experience of a trade or profession.

In this use of categories, an adult who has not been to school is 'uneducated'. This suggests that such an individual has an empty mind that 'ought' to be filled, and the merits of schooling are taken for granted. I find this misleading. Every child, in every human society, is subjected to social conditioning from the moment it is born, and the learning process that is thereby initiated continues throughout life, though it slows down rapidly as we get older. Children who do not learn what is taught at school will learn other things instead. So it seems to me sensible to use the word *education* to cover the overall system of cultural indoctrination to which the individual is subjected from infancy to maturity.

By far the most important part of *that* education is concerned with triggered responses towards parental authority and with attitudes towards language that are acquired while first learning to talk. What matters here is not simply the scale of the child's vocabulary but whether it is taught to use language simply as a trigger response to stock phrases related to stock situations or whether it is encouraged to play transformational games with words and grammar so that language becomes a means of imaginative exploration. All of which will normally take place in the context of the home and will have reached irredeemable finality long before most children get to primary school.

In this use of words, following Ivan Illich, one might well imagine a viable modern society in which there were no schools, but a society in which the adults were 'uneducated' would be a nonsense. So from now on, to avoid confusion, whenever I am referring to education in the narrower sense in which it is ordinarily used by the Department of Education and Science, I shall speak of *schooling*. In contrast, when I speak of *education*, I shall be referring to the total process by which individuals acquire their culture, and, in this context, I do not evaluate either education or culture as good or bad.

Criminals are the bearers of culture as well as policemen; railway porters as well as university professors.

As a social anthropologist I am particularly aware of the vast diversity of human culture and of the fact that all cultural systems are constantly undergoing change and development. Moreover I am very well aware that cultural systems are hardly ever homogeneous. A single political system may embrace a great variety of sub-cultures This is clearly the case in modern Britain and is normal in all modern industrial countries, and each of these sub-cultures is changing all the time.

Even so, despite this diversity and fluidity, it is manifestly the case that particular cultural systems can not only be distinguished as wholes—even if the edges are a bit fuzzy—but that they survive through time. The life style of Welsh miners in the Rhondda valley has a continuity with that of their ancestors 100 years ago even though almost every detailed particular is entirely different. This continuity, despite material change, comes about because each junior generation takes over from its seniors not just a body of material assets but a whole set of values, customs, tricks of speech, attitudes towards kinsfolk and neighbours, moral assumptions. For the modern English child 'going to school' constitutes a part of this process of cultural transmission even though it is usually a minor part. But here we run into a dilemma.

Clearly school *can* reinforce the cultural values provided by the home background; equally clearly school can run directly counter to home cultural values. Which *ought* it to do? Who has the right to decide? By what criteria should that very important decision be exercised? This is what the ongoing debate about parental choice, private education, comprehensive schools, and so on is all about. The issue is not the formal curriculum but the informal system of cultural values; . . . conservatives fear, and progressives hope, that a system of comprehensive schooling, in which members of all the different sub-cultures of a local community are mixed in together, will break down the exclusiveness of the sub-cultures.

Speaking as a social anthropologist my only comment is that, on this issue, both sides seem to me to be sociologically naive. School is not all that important; the influence of the home background on the individual's cultural personality is a thousand time's greater than the influence of schoolmates and schoolteachers. The abolition of the Public Schools is unlikely to have any noticeable consequence

for the class hierarchy of the nation as a whole. However the type of schooling to which the individual is subjected must have *some* significance and here, if you happen to hold progressive political opinions, but want to combine them with the sentimental attitudes towards children that are currently fashionable, you may find yourself in some difficulty.

Most children of my generation, in my social class, took it for granted that going to school was most unpleasant. I am certainly in no way exceptional in looking back on that period of my life as a foretaste of hell on earth. I think the adult theory was that children needed to be toughened up so that they could face the brutal realities of adult life. But today the prevailing belief, at least among middle class parents, is that schooling *ought* to be pleasant.

Now common sense seems to suggest that most children are likely to enjoy school more (or at least dislike it less) if their companions come from a similar background to themselves, and *that* suggests that the diversity of schools should more or less reflect the diversity of sub-cultures within the social system as a whole. Quite apart from that, there is much to be said for maximising variety for its own sake. For both these reasons it seems to me that genuinely 'progressive' educationalists ought to be opposed to comprehensive schools.

On the other hand, those 'progressives' who believe that one of the prime functions of a national school system should be to break down class-generated sub-cultural exclusiveness ought logically to adopt the opposite view. They ought to favour authoritarian comprehensive schools of the traditional Scottish type rather than the more recent, more permissive, British model. For if cultural homogeneity is to be achieved through schooling then, no matter what the curriculum, there will need to be an imposed standardisation of moral values which in turn implies a harsh code of discipline, which is likely to seem most unpleasant to the great majority of the children concerned. "Spare the rod and spoil the child" is a nice old fashioned 19th Century formula, yet if the function of schooling *is* to break down home generated sub-cultural prejudices it cannot be wrong in principle.

I am not myself seeking to support either side of the argument. I just want to point out that the kinds of social and moral argument which are regularly used to justify comprehensive schooling on the one hand and the elimination of discipline through violence on the other are mutually inconsistent. But I really want to make rather a

different point. I am not trying to argue that any particular type of school or any particular technique for inculcating moral values is better or worse than any other; my concern rather is with degree of compatibility between home context and school context.

5. CONTRAST OF CONTEXT AND NON-CONFORMITY

Let me remind you again of what I said earlier about language learning and about the more general point that human material culture represents an ordered *transformation* of our sensory perception of the external world. We get enjoyment from playing with language and playing with sensory signs of all kinds, but only within limits. We have an overriding need for a sense of predictable order. If cultural behaviour becomes *too* predictable, imagination is repressed, and responses to external stimuli, whether verbal or otherwise, degenerate into automatic trigger reactions; if cultural behaviour is too *un*predictable the psychological stress is too great, and we find ourselves unable to make any decisions at all. The most enjoyable state of affairs is somewhere in between, where we can risk experiment but feel safe at the same time.

Now if the values of school are overwhelmingly consistent with the values of the home background, there will be a reinforcement of the conditioning process and the general effect will be conservative. If on the other hand the values of school are inconsistent with the values of home there are various possibilities. If the contrast is very extreme the result may be psychological breakdown, but a less extreme, more tolerable, contrast may provide a seedbed for radical innovation, either religious, or political or artistic.

Striking evidence of the validity of this hypothesis is provided by the developing countries of the Third World, where, as often as not, the *only* forms of schooling available at all are either mission schools, which purvey an ethic totally at variance with that of the pupil's home background, or army schools in which, again, the values and assumptions are European rather than indigenous. In these countries the new political leaders have almost invariably arrived on the scene as revolutionaries preaching a millenarian religious doctrine with a strongly nationalist anti-European slant; yet they have all been products of a 'European' schooling of one sort or another.

The general point is that although there may be circumstances where the values of the school are reflected directly in the values of

the resultant adult, the contrary may also be the case. Judged by the values' of the system as a whole, schooling may be counter-productive.

These differences of response are not just matters of accident, they reflect well established principles of behaviourist psychology. Consistency, that is reinforcement, in overall education is likely to generate conformity and general respect for established rules; inconsistency is likely to generate belief in anarchism.

Let me be clear; I am not saying that *because* inconsistency is likely to provide a breeding ground for revolutionaries we ought to avoid inconsistency. Nor am I arguing the other way round. I am simply saying that it is *not* the ethos of school which determines in any simple way the political and moral attitudes of the developing adult. What matters is the consistency or contrast between home background and school background. In a country such as ours where the variety of sub-cultures is very great the degree of consistency between home and school is always likely to be rather low but the pattern is not random.

A school which draws all its pupils from a single social class from a relatively small local area may be expected to turn out much more conformist pupils than a school which has a large geographical catchment area and pupils of diverse cultural background. The same applies at all levels. For example, it is often argued that a University which has a nationwide catchment area is bound to be a more satis-factory educational institution than a local University. The logic of this proposition seems to me distinctly weak. What seems certain is that young inexperienced students will find a University which recruits nationally from all regions and all social classes a much less comfortable place in which to work than one which has a narrow spectrum intake either because all the students come from one social class or because they all come from one geographical area.

In this connection it deserves note that the growth of the cult of radical anarchy in universities generally has synchronised with the development of the idea that all universities ought to recruit their students nationally from the same UCCA pool.

But that is by the way. Let me repeat again, I am not suggesting that either conformity on non-conformity is good in itself. Both varieties of adult personality have important roles to play in contem-porary society and both types have opportunities right across the political spectrum. Hard-line communists, Trade Union Officials,

Right Wing Conservatives, Roman Catholic Prelates, Orthodox Jewish Rabbis and peacetime Army Officers all tend to be markedly conformist but the system also offers favours to individuals with quite the opposite temperament.

Academic life is a particularly interesting case in point because, as I indicated at the beginning when referring to Sir Raymond Priestley, the university system pulls in both directions, both towards conformity and away from it. It many respects universities with their elaborate hierarchy of faculty and departmental authority are almost prototype examples of bureaucracies in miniature, yet in all academic pursuits, and especially in a rapidly developing science, the significant innovator is nearly always, in my experience, very close indeed to being "a mixed up kid".

This is not just a private impression. There is published evidence which shows that if you have the ability and inclination to become a professional scientist you will be well advised by going all out to get admitted to Cambridge to read for the Natural Science Tripos. But having got that far it then turns out that you are almost as likely to end up as a Fellow of the Royal Society if you only achieve Third Class honours in your first degree as if you get a First, and this despite the fact that the whole system of selection for entry into professional academic life is organised so as to prevent any such possibility! (Liam Hudson: "Degree class and attainment in scientific research" *Brit. J. Psych.*, Vol. 5, p. 67).

There is no straight forward moral that can be derived from such argument. It certainly is *not* the case that it implies that we should purposely design our overall educational system so that everyone ends up as mixed up as possible. It is rather that we need to appreciate that in any social system which has to adjust itself continuously to changing technical and environmental circumstances (as is pre-eminently the case with Britain in the late 20th Century), a very delicate balance has to be maintained between conformity and innovation. Any excessive commitment towards either extreme will be equally disastrous.

If I am right in suggesting that the balance in question is the outcome of a complex interaction between sets of sub-cultural values operating in the home and other sets of sub-cultural values operating in the schools then we shall not be able to do very much to control the situation anyway. But even so, it is worth while trying to understand the processes that are at work.

The individual products of the educational system do not, of course, recognise that their attitudes are in any way a by-product of their social conditioning. Both sides believe that their views reflect the application of rational common sense to universal moral principles. The conformists talk about the universal importance of discipline and the need to take violent reprisals against anyone who seems to challenge law and order or the accepted mores of the system; the anti-conformists talk about the universal importance of freedom, in the innocent belief that a free individual capable of exercising completely free choice is a human possibility.

The thesis that I have been advancing in this lecture is that although both these seemingly contrasted views are invalid both contain elements of truth.

6. NATURE, NURTURE AND THE LIMITS OF FREEDOM

We are all animals and whatever we do we cannot shed our animal nature, nor does it make any sense that we should want to do so. That animal nature insists that we should be able to recognise the characteristics of the environmental niche to which we are adapted We need to know where we are, topographicaly, temporally, socially.

For all animal species adaptation to the environment is a two-way process; the animal does not just fit into an ecological niche which already exists, it modifies the environment as it adapts. But man has carried this process to extremes; he *systematically* alters the environment to suit his convenience. He can now survive on every corner of the earth's surface, under the sea, or even in outer space. We differ then from other animals in that our environment is, to a radical degree, man-made rather than natural. But it is never *wholly* man-made; it consists of nature transformed, and the process of transformation is far from random. It is here that conformity and non-conformity, discipline and freedom, melt in together.

As animals, we have an absolute necessity that our chosen environment shall be orderly, but as human beings we can, within wide limits, keep on inventing new manifestatins of that order. Every established cultural system is a system of order, moral, technological, legal, and the variety of established cultural systems is enormous. Cultural systems are inherently conservative and stable; the moral rules always rest on the assumption that things will go on as they are. But in fact things never go on as they are, and all cultural systems are constantly in a state of flux. The innovations that produce this

condition are not just a response to metaphysical 'social forces' they are the result of the actions of individuals exercising free choices within a cultural *milieu* which already exists.

Let me remind you again of the analogy with language. In speaking English I can always make an indefinitely large number of wholly new utterances, yet, in all of them, I am bound by the established grammatical conventions of the English language. All speakers of any language constantly have the opportunity to make brand new utterances; they are 'free' in that sense. But most of the time the vast majority of individuals make no use of that opportunity. Most of the time, most of the things that most people say are triggered responses. And the reason that this is so is that, for most people, in most cultural situations, conventional linguistic usages have been so persistently reinforced that speaking becomes an automatic form of conformity, like driving a car on the left of the road, or shaking hands when introduced to a stranger.

On this view, the main justification for schooling, is that it *may* make the pupil aware of the opportunities for non-conformity which already exist but are not usually taken up. I am not really convinced that this is the best way of achieving a rather doubtfully desirable end, but the argument does have implications for what particular type of school is most appropriate for each particular pupil at different stages of his or her career.

But there are other implications and other possibilities. Basil Bernstein pointed out long ago that the type of English languag which is treated as correct in all varieties of English school is esser tially middle-class, and that this kind of 'elaborate' coding gives great advantages in any professional or academic *milieu* as compared with the 'restricted' coding which Bernstein believed to be characteristic of the language that a child learns in a typical working-class home.

The inference that has usually been drawn from Bernstein's work is that when children from middle class homes first get to school they have a head start anyway simply because the language codes they have learned at home are better suited to the school context. But if the argument I have presented in this lecture has any validity then the Bernstein thesis is much too simple. In the first place it suggests that even if middle class children are likely to adjust more comfortably to a school environment than their working-class companions, they will do so in a more conformist way and be inclined

to accept the disciplinary values of school uncritically and without stimulus to the imagination.

But are Bernstein's assumptions about the observable difference between the 'elaborate' coding of the language of middle-class schoolchildren and the 'restricted' coding of the language of working-class school children really valid at all? Working-class parents may use a restricted code, but modern working-class children don't have to use it. Ever since radio and television became a standard part of the cultural environment, virtually *all* children, whatever their social class background, have had access to a variety of linguistic codes even in the formative pre-school years. It could be therefore that working-class children who use 'restricted' language codes in the context of school are not just imitating their parents but are reacting in this particular way to the overall cultural contrast between home and school.

This view finds support in some recent rather sophisticated empirical research by A. J. Wootton (*Sociology* Vol. 8, No. 2, pp. 277f) who has found that four year old working-class children from Aberdeen use much less 'restricted' language codes in addressing their parents and other children than the parents use to them. A commentator in the journal *New Society* (15 August 1974, p. 425) has observed that perhaps we should infer from this that apparently disadvantaged children may be *losing* in the classroom the beginnings of a personally developed system of thought which might otherwise evolve further in an out-of-school context. Because the cultural contrast is too great to be tolerated, the school environment, instead of encouraging a new kind of intellectual freedom, has the effect of forcing the child back into a narrowly restricted conformist imitation of parental language patterns in which all experiment is inhibited and hostility to school values is reinforced. If this is really so then we might have to infer that such children would end up better equipped to cope with adult life if they never went to school at all. Here again I am not personally convinced by the argument but it provides food for thought. . . .

THE ANALYSIS OF COMPREHENSION AND JUDGMENT FROM TEXTUAL MATERIAL

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ABSTRACT

The understanding of pupils' comprehension of textual material involves a unit made up of the text, question asked and the response made. Hitherto, analyses in these terms have not been extensive. For an adequate analysis we need to look at semantic, psycholinguistic and logical sources. The main difficulty is how to include the responder's previous experience when he comprehends or judges from a text. It is suggested that this might be done by digraph methods.

I. INTRODUCTION

THE problem of identifying and assessing the elements in the comprehension of textual material and judgments made from it is intriguing and relatively unexplored. Such textual situations have three components, the text (T), the question (Q) and the response made (R). The elements involved in the total $(T—Q) \rightarrow R$ are semantic, psycho-linguistic, logical and ontological (see Section 5).

Most research to date on comprehension has tended to confine itself to the response R, often concentrating solely on item difficulty analysis. This does not mean that variations in the difficulty of T and Q are not recognised and utilised, but that they are viewed broadly and non-analytically. With regard to judgment responses, it has been demonstrated (Peel, 1971) that a broad scaling of their effectiveness into imaginative, circumstantial and restricted categories is possible and informative. We now need to analyse this effectiveness into its psycho-linguistic elements by considering the total $(T—Q) \rightarrow R$ situation.

After a brief outline of the act of intellectual judgment, the substance of this paper consists of discussion of relevant ideas from psycho-linguistic sources, suggestions derived from them for test

material for purposes of analysis, the possible application of directed graph theory for analysing the total $(T—Q) \rightarrow R$ unit, and a programme of analysis.

2. JUDGMENT AS ONE WAY OF RELATING THE ACTUAL AND POSSIBLE

Possibilities play an increasing role as intellectual life matures. Making a judgment is one of the ways by which we relate the possible and the actual. A judgment might include deciding whether, in view of the cloud (the actual here and now), it is worth going to watch the John Player League match. The possible (good or bad weather at the match) is based on the individual's past experience of weather conditions and signs which have become moulded into a set of meteorological generalisations. Another judgment at perhaps a higher level might be whether a motorway should be built. Here the possibilities consist of more subtle generalisations and propositions about human ecology.

We may assess the maturity of judgment by a technique utilising here and now content but not sufficient of it to enable one to answer the question raised about it. In this way, the thinker has to draw on the possibilities he may envisage or merely produce a partial solution based only on the limited here and now information in the text. The test unit consists of a text (anecdote, incident, problem, proposal) (T), a question (Q), and a response (R). In response to a given T and Q, two major levels of answer R are provided by adolescent and adult respondents: the circumstantial, bound to the limited actualities of T, when viewed against Q; the comprehensive-imaginative, invoking possibilities. Here is an example:

> T: Lynn is a large town with a busy railway junction which attracts small boys who are interested in train spotting. Burton is a small place not very far away and many people who live there do their shopping in Lynn because there are more shops. British Railways have recently decided to close Burton Station and run no more trains from there to Lynn.
>
> Q: Should Burton Station be closed?
> Why do you think so?
>
> R: (*circumstantial*) No. The people of Burton may depend on Lynn for their shopping.
> (*comprehensive*) It depends whether many people use the trains and if they have other ways of travelling to Lynn.

There is a noticeable shift by age in preponderance of judgment

from the circumstantial to the comprehensive level during adolescence. The shift is most marked in mid-adolescence. Factors also associated with the shift are age, verbal reasoning, schooling, S.E. level, language capacity, nature of T content, amount of information, form of question Q.

3. THE NEED FOR DETAILED ANALYSIS OF THE $(T—Q) →R$ UNIT

When investigating the association between judgment level and age, ability, etc., we have utilised global differences in the (T—Q) situation, although an awareness of its more detailed make-up is implicit in the devising of the T—Q unit. Once we ask questions about the nature of T—Q, we become explicitly involved in its detailed semantic, psycho-linguistic and logical features. As a piece of text, T has a structure made up of language and thought components. But this structure is not isolated. When read by the respondent, it is related to a larger potential setting made up of *his* experience. The question asked directs his attention to parts of this background, composed also of language and thought structures. The respondent draws his information and ideas from it, when he makes a comprehensive and imaginative judgment. If, however, he makes a circumstantial judgment, he limits himself largely to the text before him.

Since T is set out in terms of language, any effective response to it must involve knowledge of meanings, language proficiency and logical competence. These components of the $(T—Q)→R$ situation are closely interwoven as an instance from a test in English comprehension shows (J.M.B., 1964). A highly literate and well argued passage was adapted from *The Bleak Age* by J.L. and B. Hammond. Its main substance suggested that in the 19th century, enjoyment of the arts was the privilege of the few and that, as a consequence of their endless toil to exist, most workers were denied this pleasure.

Among the questions set to test comprehension were the following (the terms in italics are from the text):

The author suggests that at the time of the *Industrial Revolution* the arts were

(A) totally neglected, (B) the opium of the poor, (C) enjoyed by all rich people, (D) universally enjoyed, (E) status symbols of the successful.
Which one of the following could the author appropriately have used instead of *Manchester* or *Leeds*?

(A) Buxton, (B) Blackpool, (C) Edinburgh, (D) Sheffield, (E) York.
It is obvious from the context that the *Woolsack* refers to

(A) an executive position in the textile industry, (B) the premiership, (C) retirement, (D) a high legal office, (E) the Treasury.

Because the text is a highly literate and figurative argument, successful answers may involve capacity to make inferences, reasoning from analogy, interpreting the language and ideas and knowledge outside that given in the text. Indeed many people could answer the last two without reference to the text at all!

Of course, not all comprehension tests, particularly those for younger children, call for responses at such levels of thought and judgment, but most items go beyond the barest level of language understanding to call for extended concepts and inferences.

4. SEMANTIC, PSYCHO-LINGUISTIC AND LOGICAL ELEMENTS

The comprehension and judgment of adolescents and young adults involves many things beyond the usage and recognition of acceptable textual structures, and we have to try to identify these elements in the content and context of specific T—Q tests. There appear to be three main sources for ideas; psycho-linguistics, semantics and directed graph theory (for structural analyses).

Carroll's review (1971) of the research literature provides information from psychological and educational sources and the chapters by Halliday and Bierwisch in *New Horizons in Linguistics* (1970), reveal how a linguist and a semanticist respectively perceive the problem. (They are writing about production but their ideas would equally apply to comprehension and judgment). As for the application of digraph theory (Harary, Norman & Cartwright, 1969; Flament, 1963) there have been only few attempts on textual passages. These include a study by Frase (1969) on the structural analysis of knowledge that results from thinking about text.

There have also been several investigations by Suppes and his co-workers on the incorporation of logico-semantic notions into artificial cognitive systems but these are set largely in mathematical terms. Fiksel's report (1973) describes the structure of an artificial questioning and answering model which is of theoretical interest in relation to the present report.

Carroll is concerned with comprehension, which is necessary to judgment and in many cases overlaps it. In one section he deals with textual characteristics including "vocabulary, grammatical structure

and logical organisation". In his view the principal function of language is "to provide a system whereby one individual can attempt to modify the conceptual structure" of another. He distinguishes between two kinds of understanding, (i) the bare referent meaning of a word (U_1) and (ii) a more comprehensive experience-laden content as possessed by someone having knowledge about the term (U_2). Thus, the referent meaning (U_1) of the term *weather* is revealed in correct usage and recognition in sentences like *if the weather is fine, we shall have a picnic*. Its content, as understood by a meteorologist would be designated as U_2.

This distinction is a useful one and will be taken up again in section (6). Although many comprehension tests claim only to assay U_1, in fact, as the extracts on page 102 show, invariably they involve us with understanding U_2. Indeed, it is difficult to comprehend high level literary and technical writing, involving specialised language without invoking this deeper understanding. Carroll also notes that comprehension often involves inference and reasoning, as well as sensitivity to structural nuances.

According to Halliday, language serves three purposes: communication between questioner and responder, expression of ideational content and a textual function by which language makes "links with itself and with features of the situation in which it is used" (1970: p. 143).

Normal spoken discourse involves all three functions, interpersonal, informational and textual. Printed text involves at least the last two functions. They are dependent on each other. For instance, let us consider the following two anecdotes which could constitute two parts of a test of comprehension involving ideational content and textual constraints, varied in sentences 2 and 4 of each piece.

> Here is a short unfinished description of a small dinner party. Read the passage and then answer the three questions asked about it.
>
> (A) (+ +) combination
>> Bill and Sal had to entertain Bill's boss Henry and his wife Ann. Bill liked Henry very much. They chose to give a Mediterranean meal and Sal would prepare the dishes. She was a very fine cook.
>
> (B) (− −) combination
>> Bill and Sal had to entertain Bill's boss Henry and his wife Ann. Nobody else on the staff seemed willing to do so. They chose to give a Mediterranean meal and Sal would prepare the dishes. Bill was an infinitely better cook.
>
> The questions asked concern each passage. In your own words, write more fully about what the following phrases mean to you.

(i) Bill and Sal had to entertain . . .
(ii) Sal would prepare . . .
(iii) Would the dinner party be a success?
Why do you think so?

These tests have been tried out on two groups of some 60 secondary school pupils from the first and third years and the first thing which emerges is how very few children picked up the differences in the meaning of *had to* and *would* under the two conditions of constraint. The sentence *Nobody else on the staff seemed willing to do so* appeared to be the most powerful and 14 per cent and 20 per cent of first and third years respectively revealed a sensitivity to this constraint in their answers to question 1. This lack of overt recognition of the differences in meaning could not be attributed to a failure to grasp the overall situation in each case, for in answer to the third question, the subjects appreciated the influences exerted by the two sets of second and fourth sentences. There was also a clear gradient by age with the third years making more overt references to the sentences. An interesting feature of the answers to question 3 was the number of *Yes* answers. Under the + + condition, there were 100 percent *Yes* responses and under the − − condition only 40 percent *No* (and 60 percent *Yes*) responses. Notably most of the *Yes* responses in this case were justified on the basis of further conditions or circumstances invented by the pupils and not mentioned in the text of the problem. The results overall are sufficiently promising to warrant much further attention to this type of test.

The ideational content of a text, as seen in the constraint that it imposes on single word meanings (lexical-concept terms), was investigated by De Silva (1969, 1972) in his study of the formation of historical concepts through contextual cues. He coded such terms as 'monopoly', 'capital', 'depression' set in short pieces of text, and asked the pupils to give the meaning, determined partly by the text surrounding the word and partly by the pupils' existing experience.

The above types of tests might well reveal the influence of ideational and textual constraints upon single terms and upon the general ideas conveyed by the material.

It is also possible to turn the ideas of semanticists into operational testing situations. Let us consider a point made by Bierwisch (1970: pp 166–184). A semantic theory must

> "systematically represent the meaning of the single words (or, more generally, of the lexical elements, which include also lexicalised phrases like idioms, isolated compounds, etc.)".

Componential analysis provides a means of representing meaning systematically and has much in common with the logic of classification. In psychology there is a long tradition of using classification tests in studies of intellect and cognitive development. Bierwisch also contrasts the pertinence relation between words, for example, *arm—body*, with the logical class inclusion (componential analysis). This difference is well known in psychology. It has been demonstrated often that something like the pertinence relation precedes the classification relation according to the age of the testee (Piaget & Inhelder, 1964).

Nor is his notion of a semantic field a novel one to psychologists who have long made use of association values (Noble, 1959) and nets of meaning (Kiss, 1968) in empirical research.

The description of textual material by means of directed graph indices (Frase, 1969) has not progressed far. When describing the structural cohesion of any complex phenomenon like that which binds together a group of people, the theory makes use of the concepts of point and line. A point may represent any meaningful unit or topic and a line any relation between topics.

In semantic and linguistic problems, the big difficulty is what the diagraph points and lines should represent. For Frase (1969), the points represented classes of people and the lines the inclusion relationship. In the passage:

> "The Fundalas are outcasts from other tribes in Central Ugala. It is the custom in this country to get rid of certain types of people. The hill people of Central Ugala are farmers. The upper highlands provide excellent soil for cultivation. The farmers of this country are peace-loving, which is reflected in their art work. The outcasts of Central Ugala are all hill people. There are about fifteen different tribes in this area."

there are five classes: farmers, peace-loving people, hill people, outcasts, Fundalas, making up five points. They are connected in pairs by a set-subset inclusion relationship as, for example, in the assertion, *Fundalas are outcasts*, represented by a digraph line. In the above passage, we have the following subordinate-superordinate class sequence: Fundalas ⊂outcasts ⊂hill people ⊂farmers ⊂peace-loving people. The passage also contains three sentences and one phrase not involved in this classification hierarchy, for example, *It is the custom in this country to get rid of certain types of people*. The passage is presented with an inclusion, for example, Fundalas ⊂hill people, which is not given explicitly in the text, but which can be inferred

from it. The subjects are asked to underline the assertions in the text necessary to make this inference. The material is then removed and they are asked to recall what they can from the passage, the assumption being that when the subjects scan the text for the information from which to draw the required inference, textual material not relevant will receive only minimal processing and therefore arouse weaker recall. This was in fact confirmed. Some extensions of digraph concepts to paragraph analysis are considered in Section (6).

5. ONTOLOGICAL AWARENESS

But these three verbal elements are not all. This would include what I have called elsewhere (Peel, 1971) sensitivity in the respondent to the nature of stability and change. This is part of a more comprehensive sensitivity to the conditions of being and existence over and above the knowledge of specific subject areas. I shall dare to coin a phrase for it—ontological awareness. It would include the comprehension of such concepts as: being and not-being, cancellation, substance, quantity, change, growth, balance, consistency, causality, stability, action, reaction, interaction, etc. These ideas shape the mode of thinking by which we study special areas of knowledge and apply particularly to textual material setting out problems of human and social relationships (Crowther 1973, Ellis 1974) and ecological and informal situations.

6. THE IMPORTANCE OF THE CONCEPTUAL CONTENT OF THE $(T—Q) \rightarrow R$ UNIT

The four components, semantic, psycho-linguistic, logical and ontological, form the overall setting in which a $(T—Q) \rightarrow R$ situation operates. Let us now consider how we might study this situation.

Although we may analyse T by itself without reference to Q and R, such an exercise would be psychologically trivial, since the situation takes on cognitive significance only in relation to Q and R. For example, it varies according to the nature of Q, whether we ask for recall, comprehension, concept formation, inference or judgment. Even when both T and Q are constant for different responders, the individual differences in R will call for different interpretation of the total unit. The variety in responses R to a given $(T—Q)$ has been amply demonstrated (Peel, 1966).

Since then, T by itself is psychologically abstract, analyses carried out on it alone are for the linguist. Those carried out by the psychologist must embrace T, Q and R.

As Carroll points out (1971), every passage contains lexical items calling for understanding at the U_1 level. Let us identify them as in-concepts, that is concepts wholly implied by the language within T (they are in- with respect to T). When we present the text to a person and ask him some questions about it, there may be also involved ideas derived from his independent knowledge, producing the U_2 level of understanding. Such ideas from the outside I shall call out-concepts, that is, originating outside T.

We can therefore think of three kinds of connexion: between in-concepts, between in- and out-concepts, between out-concepts. Exactly where connexions involving out-concepts operate and become critical would depend on the questions being asked of the responder. For example, consider the following text (T):

> All large cities have art galleries and Italy is exceptionally rich in art treasures. Many people travel to Italy, especially to enjoy these old paintings, books and sculptures. Floods in the Florence area recently damaged many of these great works. Old paintings are rare, valuable and beautiful and should be kept safely stored.

If the Q element were simply: *What three kinds of art treasures does Italy possess?* the in-in connexions would dominate and connexions between in- and out-concepts need be involved only minimally. If the Q element were *Why do floods occur in the Florence area?* in-out connexions bearing on the geography of the Arno basin and the surrounding mountains would be invoked. If the Q element were *Are the Italians to blame for the loss of the Paintings?* in-out connexions involving meteorology, preservation of works of art and municipal and official responsibilities are brought up. But as noted above, even if we restrict our analysis to any one question, the range of response evoked will necessitate the recognition of different out-concepts, varying from individual to individual.

In general, when we merely recall the material of T, make a circumstantial judgment to (T—Q), or make an inference solely on the basis of the statements in T (such inferable statements are implicit in T, as in Frase (1969), we invoke in-concepts. Out-concepts are invoked when any noun phrase relates to the learner's or thinker's own independently established experiences and ideas. They are

therefore invoked when a person makes a comprehensive-imaginative judgment or an explanation.

7. A SUGGESTION FOR ITS ASSESSMENT

The deep structure of a text can be defined linguistically in terms wholly of in-concepts (U_1) and semantically by in- and out-concepts (U_2). In this latter case, in-out-connexions may involve experiences, concepts, rules, laws, analogies, or causally related events, when the new experience in T is assimilated to the old matrix of experience and thought.

Frase (1969) gives us a lead towards the analysis of the connexions within a text. His text, however, is very contrived and his total $(T—Q)\rightarrow R$ situation does not involve out-connexions (in my sense) but merely operations of recall and inference of implicit statements. In what follows, concepts will be represented by digraph points, connexions between them will be represented by digraph lines and the matrix form of stating the digraph structure will be preferred.

Let us look at a text, taken form De Silva (1969) that is nearer to a $(T—Q)\rightarrow R$ situation which might be met in the comprehension of school material.

Read the following passage:

The new trading enterprises in Tudor and Stuart times were different in many ways from the overseas enterprises of medieval times. The countries traded with were farther away than Flanders and France The journeys to be made, therefore, were much more dangerous; the time occupied over a single journey was very much longer than had formerly been the case. Hence *ramudal* became a very important factor in these enterprises and almost the whole trade ultimately passed under the control of vast concerns.

What do you think is the meaning of the word 'ramudal' in the above passage?

Why do you think so?

First, we attempt to reduce the text to reveal its logico-semantic structure. Here is an attempt:

(1) [Tudor trading enterprises] (t) were not like [mediaeval trading enterprises] (me)
(2) [Tudor trading enterprises] were [far flung] (F)
(3) [Journeys] were [dangerous] (D)
(4) [Journeys] were [long] (L)
(5) [Tudor enterprises] required [RAMUDAL] (r)

Out-concepts invoked here as a result of Q: What is ramudal?

(6)   [Tudor trading enterprises] were [vast] (V)

There are several kinds of sentences, some containing the copulative *is*, indicating logical inclusions and relations and others with finite verbs, indicating action or mental process. For our purpose, at this stage of analysis, we ignore these differences, although they may be used in future for more detailed analysis of text (Fiksel, 1973), and concentrate on the lexical notions denoted in the subject and predicate positions.

First suppose the person produces the answer, *Ramudal is capital*. As an example, could we perhaps assume that something like the following implications are evoked, involving out-concepts not utilised in the text itself.

(i) Dangerous journeys imply need for protection (out-concept) (p)
(ii) Long journeys imply need for material support (out-concept) (s)
(iii) Protection implies arms and men (out-concept)   (a)
(iv) Support implies food (f) and equipment (e)   (f, e)
(v) (a), (f), (e) imply need of ready and reserve money (out-concepts)
(vi) (m) implies capital (out-concept)   (m)
(vii) Tudor trading enterprises were vast (in-connexion) (confirmatory)   (c)
(viii) Therefore, ramudal is capital

Sentences (i) and (ii) embody in-out connexions, sentences (iii), (iv), (v) and (vi) out-out connexions, sentence (vii) embodies an in-in connexion, and the final solution statement (viii) an in-out connexion.

We may set out the connexions between the concepts symbolised by the various noun and adjective phrases in the following digraph matrix.

Subject Position	In-concepts								Out-concepts						
	t	me	j	F	D	L	V	r	p	s	a	f	e	mo	c
Tudor t.e.		/		/		/	/								
Mediaeval t.e.															
journey				/	/										
farflung															
dangerous															
long									/						
vast										/					
ramudal															/

protection	/
support	/ /
arms, men	
food	/
equipment	/
money	
capital	

Q: What is ramudal?

Summary of the number of different types of $(T—Q) \rightarrow R$ connexions

	Total number of each		Proportion of connexions involved (excluding the solution)	
(i) in-in	5)	in-in	$\dfrac{6}{14}$	
(ii) Ramudal-in	1)			
(iii) in-out	2	in-out	$\dfrac{2}{14}$	
(iv) out-out	5	out-out	$\dfrac{5}{14}$	
(v) ramudal-out	1			
(solution)	—			
Total	14			

The answer *capital* or money was given by the most mature thinkers, as for instance in:

> "A vast concern usually produces 'capital'. The reference to the time of the journeys and the dangers involved lead me to come upon 'capital'. For capital would be needed to withstand the time taken in the journeys, also to buy the large numbers of goods, also to replace the goods or or ships lost in the journey."   (Age 16)

A common response by younger pupils was: *Food, because the trips were taking longer*. In this case there would appear to be the same number of in-in connexions, that is, $5 + 1$, 1 in-out connexion (longer journey need for food) and the final ramudal—out (food) solving connexion; so out of a total of 7 connexions, 6 were -n-in and only 1 in-out, and no evidence of out-out association.

Another answer was *Scurvy, because when they made long journeys often the soldiers got scurvy*. Here, in addition to the in-in connexions there is one in-out connexion: long journeys produce scurvy and

we have numerically a similar answer. In both cases we may note the relative paucity of in-out connexions and the vital absence of out-out connexions.

Now let us consider a case which reveals the effect of varying Q. If Q had been: *What does the passage tell you about the journeys?* (dangerous and long), the connexions would have been wholly in-in, that is $5 + 1$, as above. There would be no in-out or out-out connexion required.

It would seem that such an analysis of the $(T—Q) \rightarrow R$ process into T in- and T out-concepts and their connexions might give a method of scoring:

(a) the degree to which the $(T—Q)$ part of the unit requires independent ideas to evoke a particular correct answer R,

(b) different levels of R to a constant $T—Q$, which could be compared with other methods of scaling the level of comprehension or judgment. (Peel, 1971).

8. POSSIBLE ANALYSES OF $(T—Q) \rightarrow R$.

With the production of a method for coping, at least tentatively, with the difficult problem of assessing the influence of out-concepts in the comprehension and judgment called for in textual material, we may set out briefly some possible analyses of the $(T—Q) \rightarrow R$ situation. As suggested already, we could do this in terms of logical, semantic, syntactical and ontological elements.

Logical problems include the analysis of the inferential structure of the text—question unit and the intellectual levels of responses evoked. Further elaboration might be possible by describing different kinds of sentences in terms of the proposition calculus. There is also the extent to which people respond to general and abstract terms and use them in their own writing.

Semantic analysis could include studies of contextual constraint upon internal structures in the passages and upon single lexical entities. Much of this work would spill over into syntactic problems.

The study of the responder's sensitivity to conditions of stability and change offer a promising field of research in the fields of ecology, human affairs and literature.

Finally in all studies of the text—question situation, the correlation between the quality of response and independent factors in the responder's environment offer an important and rich source of controlled study.

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THE CONTEXT OF CHILDREN'S EARLY LANGUAGE EXPERIENCE

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ABSTRACT

A theory of language acquisition is proposed in outline which derives from a view of language as primarily a code for the communication of meaning intentions. It is hypothesized that progress in acquiring the ability to communicate through language will depend to a considerable extent upon the contexts, both inter-personal and situational, in which the child's early experience of language occurs. Data from a longitudinal study of the spontaneous verbal interaction of a small sample of children is presented in support of this hypothesis. Taking Mean Length of Utterance as an index of linguistic maturity, rate of development is examined in relation to the distribution over different contexts of the utterances produced by the children and of those addressed to them. Rate of development is also related to the sex, socio-economic status and position in the family of the children concerned. Whilst no significant relationship is found between rate of development and the inter-personal purposes of communication, highly significant relationships are found with the situational contexts of speech and with the child's position in the family: first-born children are the most advanced; they also experience most conversation in contexts of activities shared with an adult. Reference is made to a larger-scale study which will explore these relationships further.

I. THEORETICAL BACKGROUND

ONE of the results of studying spontaneous verbal communication between mother-child pairs—as opposed to theorizing what it might be like—is the discovery that they succeed in communicating satisfactorily for a very large part of the time. In spite of the differences between the forms of mothers' and children's utterances, each usually manages to understand the gist of what the other intends. In attempting to get at each other's

meanings, they make use of all the cues available: intonation, hand and eye gestures, the activity in which the speech is embedded, as well as the form of the utterance itself; and they bring to bear all their relevant past experience of similar situations in order to form and check hypotheses about the meanings the other intends. In doing this, they are not behaving in a way that is essentially different from other speakers of the language, it is only the greater weight that they give to the non-verbal aspects of communication that makes them somewhat different from mature speakers conversing: the essential processes are, however, the same.

Much recent research in psycholinguistics has been preoccupied with the central importance of syntax, in attempting to explain both linguistic performance and the acquisition of language by children. This preoccupation—whether as cause or as effect—has tended to be closely related to the study of isolated utterances extracted from their context. But real utterances do not occur in isolation; on the contrary, they are, as I have suggested, accompanied by a variety of non-verbal signals and embedded in a complex of purposeful interpersonal activity. Typically an utterance occurs when the sender finds himself in a shared situation with another person (the receiver), and wishes to convey a meaning, or set of meanings, to the receiver with the intention of bringing about some change in the receiver's perception of, or action in, that situation. To achieve this, the sender codes his message by making the appropriate selections from his available resources of vocabulary, grammar and intonation, and transmits the resulting surface structure accompanied by gestures, eye movements and other paralinguistic signals. So, for example, a mother in our study was tidying up the kitchen and wanted her small son to put the top back on the washing basket. Her purpose was to try to get the child to help her by bringing about a change in the situation by means of an act that was well within his capabilities, namely moving one object and putting it on top of another. However she was not entirely sure that the child would find it easy to grasp her intention, so she communicated it as fully as possible. What she actually said was

<p style="text-align:center">"Put the lid on top of the basket"</p>

but this was delivered in two parts, with a pause between 'lid' and 'on'. The word 'lid' was heavily emphasized and simultaneously she looked at, and pointed to, the lid. After a pause in which she assured herself that the child had understood what object she was referring

to, she moved on to the second part of the utterance, shifting her gaze and pointing gesture to the basket and at the same time giving emphasis to the word 'basket'. Eventually, and perhaps partly because this was an action that the child had seen performed before, he succeeded in replacing the lid on the basket. This example shows clearly how speech is embedded in a context of shared activity and how it is accompanied by other, non-verbal, communicative signals. It is also typical of the sorts of communication situations that the young child experiences many times a day and from which he gradually acquires command of his native language.

The process starts long before the child produces his first word and, as Vygotsky (1962) pointed out, it has two distinct roots. The first is to be found in the child's early attempts at inter-personal communication, firstly through gross body movements and then through vocalizations which are frequently imitated back to the child by the adult partners in the situation (Trevarthen, Hubley & Sheeran, forthcoming). From such experiences the child gradually learns to discriminate the phonological patterns in the speech of those around him and to utter vocalizations to mark crucial points in the give and take of joint activities. The emergence of such vocal signals has recently been described by Bruner in a report of the study he is making of what he calls 'calibrational enterprises'. These are episodes in which the mother sets up situations at bath time or feeding in which she inducts the child into the two-way process of inter-personal communication through vocalization (Bruner, 1973).

The second root of language is to be found in the child's attempts to impose meaning upon his experience. Although we cannot say very much about the manner in which experience is internally represented, the careful observations of young children by Piaget (e.g. Piaget & Inhelder, 1969) and others give us ample evidence that the pre-linguistic child is able to discover regularities in the relationship between his actions and the objects upon which he acts, and that he is able to draw upon his past experience of such regularities in making systematic and intelligent adaptation of his present behaviour to the achievement of his various purposes. We can be confident, therefore, that the child has already constructed many meaning categories by the age of 12–15 months, when he begins to learn the linguistic forms through which these meanings are expressed.

The two roots of language are brought together in the sort of

situation described above, in which shared activity provides the context for adult utterances which are congruent with those aspects of the situation to which the child is attending. The child's task is then to discover, over a number of similar situations, how the patterns of linguistic form that he is able to distinguish in the utterances that are addressed to him are related to the situational meanings that he has already come to understand. Such correspondences, once established, then allow the child to develop from the vocal to the verbal communication of his own meaning intentions.

Starting from such a theoretical point of view, it can be hypothesized that progress in acquiring the ability to communicate through language will depend upon at least the following:

1. Opportunities for the child to take part in joint activities with an adult in which communication is encouraged.

2. The possession by the child of a relatively coherent and socially appropriate (although obviously incomplete and partially idiosyncratic) internal representation of the structure of his environment which allows him to give meaning to his experiences, particularly those involving joint activity.

3. Adequate experience of utterances addressed to him which code those aspects of the situation that he already understands, thus giving him an opportunity to match linguistic form with intended meaning.

4. Appropriate strategies on the part of both child and adult for facilitating this initial matching of experiential categories of meaning with categories of linguistic form.

5. Relevant feedback to the child's own utterances that will allow him to assess his success in selecting the appropriate verbal forms for the realisation of his own intended meanings.

It will be seen that all but one of these requirements are to a considerable extent under the control of the people in the child's environment, particularly the parents. So it is to differences between families with respect to the contexts in which they communicate with the child and the ways in which they handle communication situations with him that one would first look for an environmental explanation of the observed differences between children in the early stages of language acquisition.

2. DESIGN OF THE STUDY

The experiment to be reported here formed part of the pilot study

for the longitudinal study of language development that is currently being carried out in Bristol. The sample for the pilot study consisted of eight children who were picked from a random sample of 15 month old children. They were selected to represent three parameters of the population judged to be of importance: sex, position in family and socio-economic status (SES). Each variable had two possible values: male and female; first-born and subsequent-born; father's occupation R.G. class I & II and R.G. III & IV. All combinations of these variables were represented. Recordings were made, at approximately 3-monthly intervals, of their spontaneous verbal interaction at home, using a radio-microphone worn by the child which transmitted to a receiver and tape-recorder situated in a convenient position in the home. The tape-recorder was programmed to record 24 90-second samples at approximately 20-minute intervals between 9 a.m. and 6 p.m. on the day of the recording. (A more detailed account of the recording procedure is given in the first annual report to the S.S.R.C. (Wells, 1973b).) No observer was present in the home during the recordings; this method was adopted to ensure complete spontaneity of mother-child interaction. However, a considerable amount of contextual information was obtained by playing the recording to the mother in the evening of the recording and, for each sample, asking about the location, the participants and the activity involved. The mother was also asked to give her interpretation of utterances that were unclear.

Three recordings were selected from each child, made at approximately 16 months, 21 months and 27 months. After transcription, an analysis was carried out of all the children's utterances and of the utterances by others (mainly their mothers) that immediately preceded the children's utterances. The recordings were then ranked in order of the child's Mean Length of Utterance (MLU), using Roger Brown's criteria (Brown, 1973, p. 54).

3. DISCUSSION OF RESULTS

Only those results of the analysis will be reported here that concern the contexts in which the utterances occurred. Context can, of course, be interpreted very widely, from the immediate verbal context of an utterance, through the situational context that provokes it, to the long-term context provided by the values and habitual behaviour patterns of the community in which a speaker lives. In the results to be reported here only short-term contexts have been examined,

the aim being to discover how the distribution of the children's utterances over different contexts is related to rate of linguistic development as measured by MLU and to those population parameters that were used in stratifying the sample of children studied.

On the basis of MLU at 27 months, the children were rated as either faster or slower developers, and the resulting groups were examined in relation to sex, S.E.S. and position in family using chi-square. There was no significant relationship with sex or S.E.S., but a highly significant relationship was found with position in family, all first-born children having higher MLU at 27 months than all subsequent-born children. This relationship will be returned to later, but in the discussion of results that follows it should be remembered that first-born children are also linguistically the fastest developers.

Firstly, the verbal contexts of the children's utterances were examined in terms of the Inter-Personal Purposes that they served. Why do children talk to those around them and why do others talk to them? It seems reasonable to suppose that an answer to this question will have a bearing on attempts to explain the phenomenon of language acquisition, as it is these communicative purposes that provide the motivation for the initial task of code-cracking. But to answer this question we need to ask the more general question as to why people talk at all. In general, the answer seems to be that linguistic communication is one of the many types of purposeful behaviour which are used instrumentally in the achievement of larger plans (Miller, Galanter & Pribram, 1960), and that it is called into play specifically when the participation of another person is required for the achievement of a particular plan. The variety of plans in which linguistic communication plays an instrumental role is legion; however, the ways in which it plays this role are not so numerous, and there already exists a general consensus on the basic instrumental purposes of language (e.g. Halliday, 1969).

As with most plans, those involving linguistic communication are hierarchically organized, with smaller units being contained within larger units. Within the analysis being presented here, the highest level of unit that is recognized is the *Conversational Sequence*. By Sequence is meant a self-contained stretch of conversation bounded on either side by silence or by a change of topic or purpose. The Sequence is assigned to one of the following types, according to the purpose of the initiator:—

Control: the control of the present or future behaviour of one or more of the participants in the conversation.

Expressive: the expression of feelings, attitudes and evaluations.

Social: the establishment and maintenance of social relations.

Representational: the giving and requesting of information.

Tutorial: deliberate teaching about language and its use.

At a lower level, individual utterances occur within such sequences with the more specific *Functions* of *Commanding, Offering, Praising, Greeting, Stating,* etc. Intermediate between Sequence and Function we recognize a third level, that of *Sub-sequence* (similar to the unit Exchange in the analysis of 'The English Used by Teachers and Pupils', (Sinclair *et al.,* 1972)). Sub-sequences cover the same range of purposes as Sequences, with the addition of the *Procedural* Sub-sequence, which is concerned with opening and managing the channel of communication. Sub-sequences are best thought of as strategic manoeuvres in the attainment of the overall purpose of the conversational sequence. (A fuller account of the scheme of analysis can be found in Wells and Ferrier (forthcoming) and in the coding manual for the project (Wells, 1973a).)

An example from one of our mother-child dialogues may make the hierarchical scheme of analysis clearer:

Sequence	Sub-sequence	Function	Text
	Represent.	Content Question	Ch: Where's the pen that Pappa gave me?
		Demand Response	Ch: Mummy?
Representational	Procedural	Request Repetition	M: Pardon?
		Reformulation	Ch: Where's Pappa's pen draw on there?
		Content Response + Tag	M: You left it at Clifton, didn't you?
	Represent.	Denial	Ch: No.
		Justification	Ch: Mark bring it home, think so.

In the very earliest stages in the development of communication the child does not work within this hierarchy of units, for his vocalizations do not yet function within a conversational context. It is clear, however, that, even by the pre-verbal stage, he is systematically signalling a range of Inter-Personal Purposes before any words can be distinguished, with gestural and intonational contrasts playing an important part in distinguishing between intended meanings. But by the time that the child begins to put two words together, and even at the end of the one-word stage, a number of intentional purposes are apparent in his speech that can be described in the scheme just outlined.

Initially, the most important Purpose appears to be Social—gaining and holding mother's attention, with the Expressive functions of expressing pleasure and interest in objects and people being almost equally important. Rather surprisingly, Control functions such as demanding goods and services do not figure very largely in early utterances, although they become much more prominent by the time MLU reaches 1.5 morphemes. Representational functions also come to assume a greater importance at this stage, with the proffering of statements about the world around the child and the asking and answering of questions; however, the simpler function of simply pointing to and naming objects is amongst the first to appear. The main brunt of the child's speech, therefore, seems to be concerned with the establishment of a strong social and affective bond with those around him and then, from within this relationship, going on to discover how his family community gives meaning to its common experience, and with how he himself fits into this physical and social framework.

The first question we asked, therefore, concerned the Inter-Personal Purposes of the Sequences in which the children's utterances occurred. (This and subsequent analyses were carried out on the first two recordings of each child only.) The hypothesis to be tested was that if a distinction was made between Sequences of Control, Expressive and Social conversations on the one hand and Sequences of Representational and Tutorial conversations on the other, differences would be found between the children in terms of the sample variables, with the more advanced children (as measured by MLU at 27 months), in particular, producing more utterances in Representational and Tutorial conversational sequences. In fact this was not the case: using X^2, no significant difference was found

to be associated with Position in Family. (It will be rembered that first-born children were the most advanced.) Nor was a significant difference found in relation to sex. However a difference was found with respect to SES, children of lower SES producing proportionately more utterances in Control, Expressive and Social sequences (p. <0.05). SES was not, however, associated with slower rate of development.

Next, the situational contexts of the children's utterances were examined using three broad categories of situation: *Mothering*, *Independent* and *Joint Enterprise*. Mothering included such activities as bathing, dressing, feeding and cuddling; to Independent were assigned all situations where the child was alone, with other children only, or receiving no more than sporadic and divided attention from an adult; Joint Enterprise was the category to which were assigned situations of joint activity such as doing the housework together, play with adult participation, looking at books together, or just talking. This time, all between-group comparisons (using X^2) showed significant differences. With respect to sex, boys produced more utterances in Mothering contexts and girls more in contexts of Joint Enterprise (p <.01); with respect to SES, the difference was less significant (p <.05), with children of lower SES producing more utterances in contexts of Joint Enterprise and proportionately less in Mothering and Independent contexts. Position in Family showed the most significant difference, however, (p <.001) with first-born children producing considerably more utterances in Joint Enterprise contexts and less in Independent contexts, with Mothering contexts accounting for an almost equal proportion of utterances from both groups.

Similar analyses were made of the purposes of the conversational sequences and of the situational contexts in which the utterances immediately preceding the children's utterances occurred. Between-group comparisons were made as for the children's utterances, but no significant differences were found except for Position in Family in relation to situational context: mothers of first-born children addressed considerably more of their utterances to them in contexts of Joint Enterprise (p. <001).

Taken together, these results are perhaps rather surprising in view of the prevailing mythology about children of lower SES being linguistically backward and lacking in communication skills. But as we and others have recently pointed out, social class cannot, of

itself, have explanatory value in accounting for differences between children. As stated earlier, we have hypothesized that the explanation will rather lie in the differences between families in the opportunities that they provide for joint activities in which communication is encouraged; in differences in the extent to which utterances are addressed to the child in such situations which provide him with opportunities to discover the match between form and intended meaning; and in differences in the appropriateness of the feedback he receives as to the success of his own communications.

That parents of some children are less adept at providing such situations is certainly the case, but this may be as much the result of other factors, such as the number of children to be attended to or the pressure of other commitments, as a direct outcome of the attitudes and practices associated with socio-economic status. Within this small sample, at any rate, it was not the SES of the child that was associated with slower development, but rather his subsequent-born position in the family.

Interpreting Bernstein's claims that it is the differential use of language by different social groups that is chiefly responsible for inequalities in communicative skill (Bernstein, 1972), we had expected to find rate of development associated with proportion of utterances occurring in Representational and Tutorial sequences. This would have been explained in terms of the greater variety of meanings that are expressed in such sequences and of an anticipated greater demand for semantic and syntactic complexity—giving rise to an increase in MLU—in realising these meanings. But no relationship was found between frequency of different Inter-Personal Purposes and rate of development.

Instead, the only really consistent relationship was between rate of development and Position in Family. First-born children produced a higher proportion of their utterances in contexts of Joint Enterprise and were also more often spoken to in such contexts. They also produced and received a larger total number of utterances than subsequent-born children. It seems that there may be a causal connection here. Certainly these results support the hypotheses about the importance of an early environment in which communication is encouraged in situations of joint activity, and of adequate experience of relevant adult utterances in such situations. The explanation would therefore seem to be that first-born children are at an advantage in that their mothers have more time to devote

to shared activities. When these shared activities are both pleasurable and productive of relevant conversation, then most of the conditions are met for rapid progress in the initial stages of language acquisition. That this is indeed the case is confirmed by interviews with the mothers. All the mothers of first-born children claimed to spend upwards of three hours each day interacting exclusively with the children in question. All these mothers now have younger children and although they still recognize the importance of giving a similar amount of time to activities with the younger children, they find that, with more calls upon a limited amount of time, the second and later children inevitably receive much less undivided attention than their first-born siblings.

Too much must not be made of the results that have been presented here, for they are based on data from a very small sample of children. However the directions in which they point are sufficiently interesting, we believe, to encourage us to pursue them in our analysis of the data that we are now collecting from the larger and more representative sample of the main study.

ACKNOWLEDGMENTS

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PUPILS' ASSESSMENTS OF SOCIAL ACTION: A CROSS-CULTURAL STUDY

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ABSTRACT

Groups of male and female secondary school pupils in six countries in different parts of the world rated various forms of positive and negative behaviour. There were few differences between ratings of males and females in each country. Cross-cultural comparisons showed that, while there was agreement between groups for assessments of some behaviours, there were substantial differences for many others. These results lead to the conclusion that there doex not appear to be a basis for postulating universal stages of moral judgment.

I. INTRODUCTION

REVIEWS of studies in the field of moral development (Kohlberg, 1963; Pittel and Mendelsohn, 1966; Graham, 1972) show that cross-cultural investigations are the exception. This may, in part, be a reflection of problems associated with research in this area. Reviews also show that, in the main, studies have dealt with moral judgment and not moral action. Differences in terms of behaviours to be judged and procedures used are associated with a situation where there are few recognised standard approaches.

Enquiries into moral judgments are concerned with an understanding of the nature and implications of the action to be judged and an evaluation in terms of acceptability to oneself and others. Research difficulties in cross-cultural studies include problems that could arise where alternative interpretations are given by subjects to questions posed or situations to be judged. Where actions presented for judgment are outside the subject's experience, as in the case of 'moral dilemma' questions used by Kohlberg (1963) there is the possibility that the response may reflect an evaluation of a hypothetical and not a realistic form of behaviour.

Discussing methods of cross-cultural research Frijida and Jahoda (1966) point to the need to ensure equivalence of instructions across different cultures. They also suggest ways of employing intra-cultural comparisons as a check on variability arising from factors which could not be controlled cross-culturally. While the personal research reported here could not use the fairly elaborate designs that were suggested as being desirable an attempt was made to incorporate features aimed at equivalence in presentation of questions as well as a measure of intra-cultural comparison. Moral judgments are complex in nature, involving cognitive functioning reflected in decision-making relating to a wide range of social interactions and social expectations. Cross-cultural studies in this field could indicate the extent to which judgments or expectations are universal or, if they vary, are influenced by cultural variables.

If there is acceptance of the view that the acquisition of concern and respect for others is highly desirable then the promotion of a sound basis for positive moral judgments and behaviour would seem central to the purposes of education. The claim by Kohlberg (1970) that there are universal stages of moral judgment is based on the conclusion that cultural variables are not seen as influential features in the development of moral concepts and moral judgment. A universal, generalised concern for others could be postulated. If, however, it could be shown that cultural variations in moral judgment existed there would be an appreciation that concern for others could take alternative forms because of variable influences. This conclusion would then have implications for an understanding of the nature of moral judgment and for an application of this understanding in moral education.

This paper reports a cross-cultural enquiry, involving pupils in six countries, in which responses were made to everyday situations presented in questionnaire form. It was hoped that, in using situations familiar to pupils in all the countries and a form of presentation that was fairly easily followed, problems associated with com-munication would be minimised. The aims of the study were limited to an attempt to ascertain the extent to which there was agreement between secondary pupils in a number of countries in responses to questions relating to various forms of social behaviour. In addition intra-cultural comparisons were made between male and female respondents.

2. METHOD

Subjects were secondary school pupils, aged between thirteen and fifteen, in the following countries: Guyana, Anguilla, Nigeria, Ghana, Cameroon and England. The size of the national groups varied from 70 (Cameroon) to 164 (England), with males and females roughly balanced within each group. The regional distribution was as follows: West Africa, 160M, 151F; Caribbean, 76M, 84F; England 94M, 70F.

The everyday situations used in the questionnaires were adapted from those employed in a previous enquiry (Stanton, 1973). A study which, in part, replicated the first enquiry (Stanton, 1974a) confirmed that the kind of question used provided a useful basis for an assessment of responses relating to moral judgments. Initially a copy of a draft questionnaire was sent for comment to heads or teachers in participating schools, all of whom were known by the investigator to be familiar with the requirements of this type of enquiry. Observations on the draft were invited to ensure that there were no problems in connection with the questions to be presented or the procedure to be used. Local judges were thus able to consider and advise on the suitability of actions to be judged. This preliminary enquiry resulted in the incorporation of several modifications in a final version of the questionnaire. To ensure uniformity in presentation notes outlining common instructions and examples of positive and negative questions to be used as practice items were made available.

There were three sections in the questionnaire, dealing respectively with actions by adults, adolescents and children. Each section had twelve questions, which were randomly presented to limit the possibility of response-set. Eleven of the questions in each of the first two sections were the same. These were:

> Giving a small amount of pocket money to help others in need.
> Helping old people to do jobs in their homes.
> Stealing a small mount of money from an adult.
> Being rude to a known adult.
> Stealing things from a market stall.
> Helping young children when parents are away from home.
> Disturbing neighbours by making a great deal of noise.
> Stealing a large amount of money from an adult.
> Helping someone in the street who had been hurt accidentally by a car.
> Giving a larger amount of money to help others in need.
> Being rude to beggars.

The final item in the list of actions by adults, was 'Giving money to help relatives in need' and the final item in the second section was 'Helping to do jobs in the house'. Seven questions in the section dealing with actions by children were the same or similar to those shown above. These questions related to giving money, being rude, stealing money and helping the elderly. Additional questions related to helping to do jobs in the house, cheating at sums, being friendly to a new pupil at school, bullying, and helping another child at school. Questions relating to different forms of the same kind of behaviour, e.g., giving more or less to charity or stealing more or less money, were included to enable assessments to be made of the extent to which judgments varied with the practical outcome of an action. Similar alternative-form questions were included in a previous study (Stanton, 1974b) and proved useful in determining levels of discrimination in moral judgment among primary school pupils. The emphasis in the inquiry was on judgment reflecting expectations of behaviour for a range of actions carried out by others.

Before completing the forms pupils were told that there were no extenuating circumstances associated with actions. In judging 'stealing money' for example, it was to be assumed that this was done purely for personal gain and not because of an urgent need. Emphasis on this qualification was essential in order to minimise the possibility of alternative interpretations. After a consideration of common practice items and a review of the procedure to be used questionnaires were completed anonymously, in a normal classroom situation. Each action was assessed on a scale from 'very strongly desirable' to 'very strongly undesirable', and it was emphasised that there were no 'right' or 'wrong' answers. Where questions related to giving or stealing money the amounts involved were given as the local equivalents of a stated sum in sterling currency.

3. ANALYSIS

Males and females in each of the six national samples were considered independently, producing twelve groups, thus enabling intra-cultural comparisons to be made in terms of sex differences as well as cross-cultural comparisons between males and females, respectively. The first part of the analysis consisted of an examination of scores at the extremes of the range to show the extent of consensus in the selection and judgment of actions considered most desirable or undesirable. Each of the twelve groups had a high mean score

D

for judging adolescents helping someone who had been hurt acci-
dentally by a car. With one exception this was universally judged to be
the most desirable action, with mean scores ranging from 5.56 to 5.89
and standard deviations from 0.31 to 0.93. There were nine high
scores for judgments of adults helping in an accident (means,
5.37 to 5.80; S.D.s, 0.45 to 0.97). There were six high scores for
adolescents helping the elderly (means, 5.49 to 5.87; S.D's, 0.34
to 0.88) and six for adults giving a large amount of money to help
others (means, 5.34 to 5.83; S.D's 0.37 to 0.84). The remaining high
scores at the extreme of the range were spread over a number of
actions, with too few in each category to indicate a pattern of judg-
ments.

A review of lowest scores showed that eleven of the twelve groups
had a very low mean score for judgments of adults stealing a large
amount of money (means 1.02 to 1.67; S.D's, 0.15 to 1.09) and
eleven had low scores for adults stealing from a market stall (means
1.02 to 1.75; S.D's 0.15 to 1.06). There were nine low scores for
adolescents stealing a large amount of money (means 1.02 to 1.67;
S.D's, 0.15 to 1.05), and seven for adolescents stealing from a market
stall (means 1.08 to 1.34; S.D's 0.27 to 0.88). Seven low scores were
for judgments of children stealing a large amount of money, with
means ranging from 1.08 to 1.41 and S.D's from 0.27 to 0.65. Not
unexpectedly, judgments of stealing figured largely among the lowest
scores, with more for judgments of adults stealing money than for
similar actions by adolescents or children.

These results show that there was a measure of agreement in
ranking some behaviours at the extremes of the range and that there
was not a very wide spread of scores for judgments of actions like
helping at an accident and stealing from a market. A view of other
scores, however, some of which are seen in diagrammatic form in
Figure 1, shows a greater variation between groups in their judgments
of actions like being rude or making a noise. In the three examples
shown there are, with some exceptions, similarities between judg-
ments of males and females in each country, a trend that is confirmed
in comparisons of all variables, to be discussed later.

Correlations

Data relating to each of the male and female groups were inter-
correlated. Abstractions from the matrices, in Table 1, show some
of the resulting correlations where comparisons could be made

FIGURE 1:   Mean scores of assessments of three kinds of behaviour by pupils in six countries.
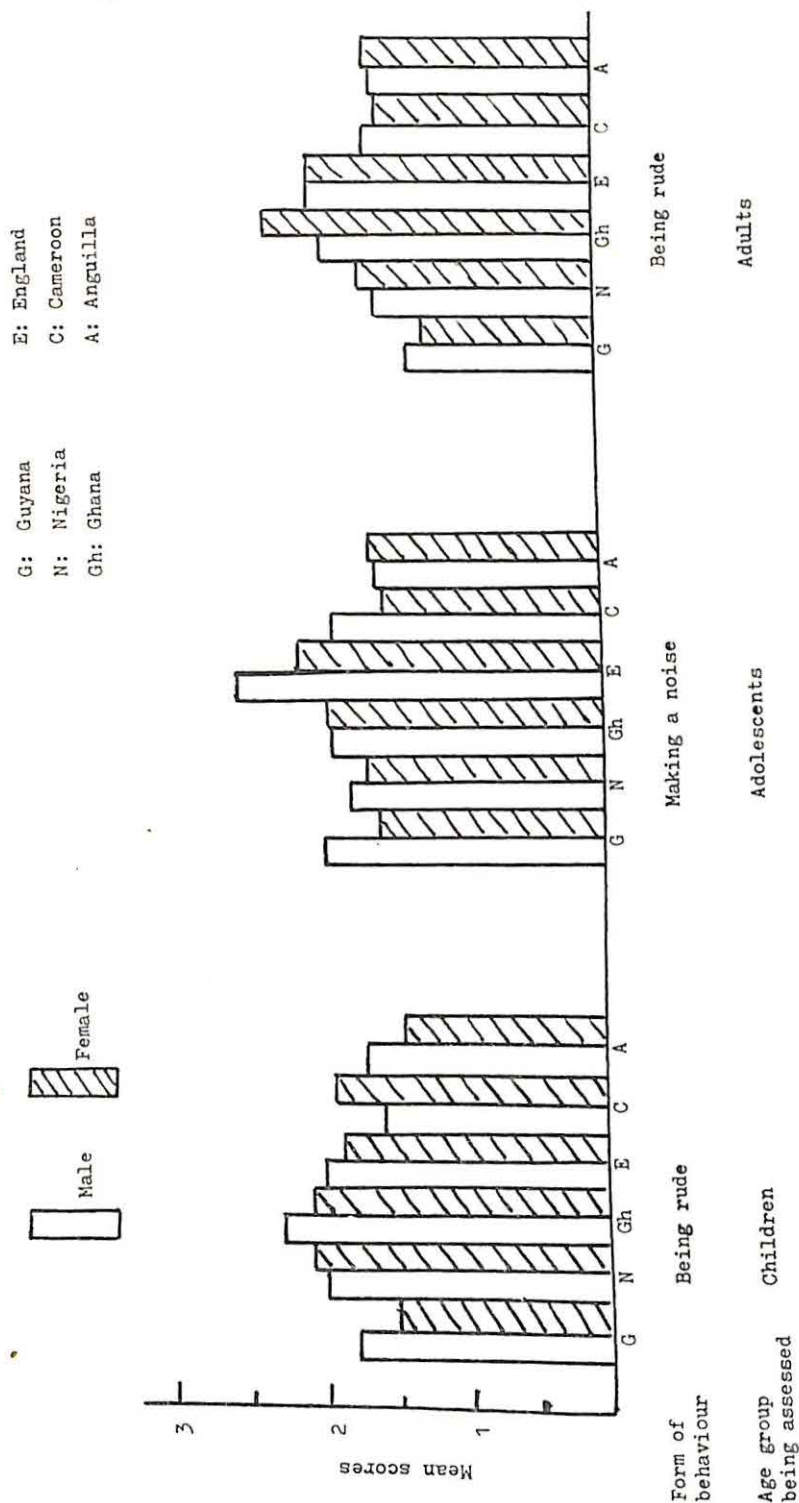
G: Guyana   E: England
N: Nigeria   C: Cameroon
Gh: Ghana   A: Anguilla

Male

Female

Mean scores

Being rude   Making a noise   Being rude

Children   Adolescents   Adults

Form of behaviour

Age group being assessed

TABLE 1

CORRELATIONS OF JUDGMENTS OF FORMS OF SIMILAR ACTIONS WITHIN SECTIONS AND OF THE SAME BEHAVIOUR BETWEEN SECTIONS.

Judgments between actions relating to		children/ children	adoles- cents/ adults	adoles- cents/ adults	adoles- cents/ adults	adoles- cents/ adoles- cents
Forms of behaviour		Giving more or less pocket money	Being rude to beggars	Making a noise	Helping the elderly	Stealing more or less money
Guyana	M	19	63**	14	28	−04
	F	38*	45**	59**	36*	18
Nigeria	M	59**	58**	57**	32*	23
	F	49**	54**	23	37*	33*
Ghana	M	48**	54**	58**	25*	26*
	F	41**	64**	58**	19	37**
England	M	56**	79**	49**	61**	60**
	F	36**	54**	29*	34**	29*
Cameroon	M	52**	45**	50**	03	64**
	F	85**	85**	64**	23	39*
Anguilla	M	41*	70**	64**	12	−12
	F	14	46**	62**	45**	−06

Decimal points omitted.   *Sig. 0.05 level.   **Sig. 0.01 level.

within sections for judgments of different forms of similar actions or between age-groups for judgments of the same behaviour. The first column shows that in almost every case there are significant correlations for giving different amounts of money to charity, both judgments relating to actions by children. The second column shows relationships between assessments of adolescents and adults being rude to beggars: here all correlations are significant at the 0.01 level. Almost all correlations are significant for assessments of the same two groups making a noise but in the fourth column there are significant correlations for just over half the groups for assessments of helping the elderly. The greatest variation among results presented is seen in judgments of adolescents stealing more or less money, where correlations range from −0.12 (Anguilla M.) to 0.64 (Cameroon M).

The very low or near-zero correlations, showing that scores do not vary consistently, may indicate different expectations for the two levels of behaviour or uncertainty in judgments. Further enquiry

would be necessary to establish causality. A review of all correlations showed, as indicated in Table 1, that there were differences in patterns of relationships for forms of similar behaviour within age-groups or for the same behaviour between age-groups. Significant correlations for these relationships varied from approximately 75% for the male and female Ghanaian and English groups to about 33% for the two Anguillian groups. If a low relationship between scores reflects varying expectations this could be seen as an ability to discriminate between different forms of the same or similar behaviour. It is possible, however, that a high relationship between scores, resulting in significant correlations, could indicate that, as suggested in a previous study (Stanton, 1974b), 'the judgment is related to values in terms of which the nature of the action or intent takes precedence over the practical outcome'.

Comparisons between groups

Initially comparisons between males and females in each country were made for each variable, using t tests. In presenting results the letters (c), (a) and (A) will be used to refer to judgments of actions by children, adolescents and adults, respectively. Subscripts will be used, where necessary, to refer to the level of functioning in the behaviour concerned. Giving or stealing a small amount of money by a child would, for example, be indicated by (c_1) while (a_2) would refer to giving or stealing a larger amount of money by an adolescent.

There were no significant differences between scores for Nigerian males and females and differences at the 0.05 level occurred for bullying (c), stealing from a market (a) and helping the elderly (A) for the two Ghanaian groups. Differences between the English groups, also at the 0.05 level, were for giving money (c_1), helping the elderly (a) and making a noise (a,A) while, for the Anguillan groups there were differences at the 0.01 level for giving money (A_1) and, at the 0.05 level, for being rude (a,A) and for stealing from a market (a). There were differences between the Guyanese groups at the 0.01 level for giving money (A_1) and at the 0.05 level, for being friendly (c), making a noise (a), being rude (a,A) and stealing from a market (A). The largest number of significant differences occurred between the two Cameroonian groups. These differences were, at the 0.01 level, for stealing money (c_1), helping children (a,A) and, at the 0.05 level. for being rude (c,a), stealing money (a_1,A_2), stealing from a market (a,A) being friendly (c) and giving money (A).

Apart from comparisons between the two Cameroonian groups there was a good measure of agreement in judgments between sexes in each country. Males had higher scores for negative and lower scores for positive actions in about three-quarters of the comparisons resulting in significant differences. This indicates a tendency for most male groups in this study to be less critical of some negative behaviours and less approving of certain positive behaviours than females in their own countries.

Analysis of variance was carried out to compare assessments for each variable by males and females, respectively, in all six countries. There were differences at the 0.01 level, for all variables apart from those shown in Table 2. These results show that there was a good measure of agreement among males for seven of the thirty-six variables and for the females, for five variables. When, however, greater caution was used, and only highly significant results, at the 0.01 level, were accepted, qualified agreement could be shown for variables in Table 2 that are asterisked. The more cautious interpretation thus showed agreement for judgments by both sexes in all countries of actions relating to being rude, helping

TABLE 2

COMPARISONS BETWEEN MALES AND FEMALES, RESPECTIVELY, IN SIX COUNTRIES SHOWING ANALYSIS OF VARIANCE RESULTS WHERE THERE WERE NO SIGNIFICANT DIFFERENCES OR DIFFERENCES AT THE 0.05 LEVEL

Form of behaviour	Age-group being judged and level of behaviour	
	Male	Female
Being rude	a_1 A_1 A_2	C_2*
Helping in an accident	a A	a A*
Helping young children	A	A*
Stealing money	C_1 a_2	C_2* A_1 A_2
Stealing from a market		a A

*Sig. 0.05 level. All other results shown are not significant.

c = child, a = adolescent, A = adult. Subscripts show levels of behaviour.

in an accident, helping children and stealing money. The variables concerned, however, relating to different actions by different age-groups or levels of behavious, were not the same for males and females. In addition there was agreement between females in all countries for judgments of adolescents and adults stealing from a market.

, Main features arising from comparisons may be summarised as follows:

(i) Intra-cultural comparisons, between males and females, produced comparatively few significant differences;

(ii) There was a tendency in these comparisons for male judgments of positive and negative behaviours to be less polarised than those for females;

(iii) Separate cross-cultural comparisons for males and females showed agreement for only a limited number of desirable and undesirable behaviours.

The level of agreement between males and females within each country, when contrasted with agreement between national groups for only a small number of actions, strongly indicates that certain judgments are more subject than others to specific cultural influences. The large number of cross-cultural differences indicates that universality of judgments among pupils in this study only exists to a limited extent.

4. DISCUSSION

Decisions concerning moral or social actions are not necessarily limited to interactions with members of one's own age group and, in most cases, they are related to everyday situations. This study attempted to take these considerations into account by comparing assessments, by pupils in six countries, of well-known actions involving three age-groups. Respondents were also able to judge similar forms of behaviour at different levels. There were few substantial differences for levels of assessment between males and females in each country and, while there was considerable agreement between national groups for a limited number of actions, there were also many differences. Although it would be very desirable to explain the reasons for differences between national groups the very extensive research required was beyond the scope of this enquiry. Assessments by respondents in this study represent expectations of behaviour by others in their own societies. It is suggested that it would not be valid to interpret results in terms of comparative 'levels of moral judgment' because of the probability that grounds for making judgments of some behaviours may vary between societies. There may well be social or cultural imperatives making for differential expectations of behaviours like doing household chores or disturbing neighbours by making a noise. Detailed enquiry would need to be made in order

adequately to interpret the significance of judgments for respondents.

The evidence of cross-cultural studies relating to various aspects of development emphasises the importance of differential environmental influences. Research into perceptual development, for example (Hudson, 1967), shows how levels of familiarity with three-dimensional representations can greatly influence interpretation of such phenomena and Vernon's work (1969) points to differential influences of the cultural environment on cognitive development. While care should be exercised in applying conclusions from one aspect of development to another it is suggested that cultural expectations influenced by a range of processes, including modelling and specific teaching, could result in variations in moral judgments, as shown in this study.

A valuable feature of cross-cultural studies is that they can provide a basis for assessing the relative universality of various aspects of development. A knowledge of the relative effects of different environments would greatly help in understanding the nature of learning processes and interactions between learner and environment during development. Kohlberg's claims for cross-cultural universality of moral judgments are strongly criticised by Simpson (1974) on theoretical as well as methodological grounds. Results of the present enquiry are not consistent with the conclusion that there are universal stages of moral judgment. It is suggested that Kohlberg, in using 'moral dilemma' questions, was assessing ability in general cognitive functioning rather than in judgments that related to moral decision-making in real-life situations. The confirmation or otherwise of the claim for universality of stages in moral judgment has important implications as suggested earlier, for moral education. A theory of universality would indicate a common educational policy. An appreciation of differences, as well as similarities, in contexts of varying environmental influences, would indicate the need to interpret the significance of judgments and events in terms of particularised social interactions and cultural settings.

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THE REAL FAILURE OF JOHN DEWEY

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ABSTRACT

This article looks at Professor G. H. Bantock's criticism that 'Dewey represents a threat to the whole tradition of European scholarship'. It concludes that Professor Bantock is able to make good his charge because Dewey himself did not appreciate the intellectual significance of the pragmatism he advocated.

I. INTRODUCTION

IT is a commonplace of criticism that Dewey's pragmatism is a method and not a philosophy, yet reflection suggests that this view fails to do justice to pragmatism. Its basic function is to make situations clear so that ends and values may be more properly seen. What was an end may be a jumping-off point for further discovery; what was a value may have to be reassessed. The philosophy of pragmatism is growth, as in Dewey's statement that 'the only ultimate value which can be set up is just the process of living itself' (Dewey, 1966, p. 240). 'Living' implies growth, change, choice, a continual scrutiny of the forces that give meaning to life. Solely as an educationist, Dewey is not concerned with the imposition of ends, though he is concerned with aims rooted in experience and present needs. In his chapter, 'Aims in Education' in *Democracy and Education* he sets out his values clearly. If, says Dewey, we consider too much the ends which lie outside our activities (what our external ends ought to be) we limit our intelligent choice of possible courses of action. An aim needs to be flexible; an external end can result in rigid action: such an end 'is not supposed to have a working relationship to the concrete conditions of the situation' (Dewey, 1966, pp. 104-5). Present needs and experience, not external ends, ought to be the fulcrum of thought. For Dewey, an aim is permissible but it is 'experimental, and hence constantly growing as it is tested in action' (Dewey, 1966, p. 105). His principle of continuity sagely leads

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him to indicate that 'the object is but a phase of the active end,—
continuing the activity successfully' (Dewey, 1966, p. 105). One
imagines that even for a devoutly religious person, what is *educa-
tional* is not so much the final acquisition of faith but the process or
activity by which faith was attained.

Even if it be admitted that in society at large some ends must be
imposed because one man's good can be another man's bad, there
are two important criteria to be noted. Firstly, the ends imposed
ought to be minimal and related to observed needs and not to any
idealistic conception of what is, or may be, good. Secondly, we have to
remember that the school (or any educational group) is not merely a
part of society, but a special part in which the values of society are
debated as well as received. It would seem axiomatic that the
more ends are imposed in this special society the less it can function
as an educational instrument.

2. TRANSACTION

Dewey speaks of interaction or transaction between a learner and
his experience. The terms imply cause and effect with a resulting
situation in which something is resolved and a new direction initiated.
People have seen this as of limited use, largely possible only in a
merely practical or problem-solving context. Dewey's own writings
give colour to this view, though the scope is much wider, and
'problem-solving' and 'practical' are not terms to be denigrated.
Life affords a panorama of problem-solving opportunities from the
humblest levels of arithmetic to the gravest moral, personal, or
social issues. It is because people associate problem-solving with the
merely practical and because they honour belief in ends abstracted
from the case as it is, that the transactional way falls into disrepute.
To hold to a great end towards which one steers is more romantic or
dignified than a moving onwards by testing, checking, and experi-
ment.

The Dewey pragmatic method is a method of enquiry. Hollins
observes that a process of generalization occurs:

> Inquiry is generalized into the method which is used to convert primary
> experience into the refined experience called knowledge.
>
> (Hollins, 1964, p. 94)

He explains:

> Ideas are tools or instruments used in the process of enquiry; hence the
> name 'instrumentalism' which Dewey gives to his own version of

pragmatism (pragmatism being (i) a doctrine which estimates any assertion by its practical bearing on human interests, (ii) a method for determining the truth of an assertion by an examination of consequences which follow from it). Knowledge is not to be thought of in an absolute way; it is to be used in further inquiries and may be transformed in the process. The test of truth is verification . . .

(Hollins, 1964, p. 94)

The pragmatist may agree with the idealist on the subject or activity content of education, but that content for the pragmatist is relevant only to present needs. Needs change, and growth entails the confrontation of the educand with all kinds of experiences. Accordingly, philosophy issues from education, not the reverse:

The most penetrating definition of philosophy that can be given is, then, that it is the theory of education in its most general phases.

(Dewey, 1966, p. 331)

If it be asked, 'Education towards what end?' or 'Growth towards what end?' the answer is that 'education' and 'growth' are terms signifying increasing awareness. The pragmatist makes the assumption, founded upon rational observation, that engagement leads to awareness, and that awareness is desirable. Of course, idealists, or some of them, tend to believe that complete awareness is undesirable as it leads to personal lack of faith or to a weakening of social bonds.

3. SUBJECT DIVISIONS

Because for Dewey the turning point of the educational process is the experiencing child in his transactions with the environment, Dewey did not favour traditional subject divisions. In *The Child and the Curriculum* he employs the metaphor of the map. A map may be said to summarize and arrange the achieved results of an explorer but to achieve the map the explorer has to make notes of the journey. The final map neglects the process but presents the outcome (Dewey, 1956a, pp. 19–20). These distinctions Dewey regards respectively as the psychological and logical aspects of experience. Maps (codified subject-matter) are extremely useful for they put 'the net product of past experience in the form which makes it available for the future' Dewey, 1956a, p. 21). The teacher requires, in Dewey's terms, to 'psychologize' it for the learner:

Hence the need of reinstating into experience the subject-matter of the studies, or branches of learning. It must be restored to the experience from which it has been abstracted. It needs to be *psychologized*; turned over, translated into the immediate and individual experiencing within which it has its origin and significance.

(Dewey, 1956a, p. 22)

It is hard not to be sympathetic towards this incisive perception. Dewey develops this insight when he demonstrates how instrumentalism dispels the artificial dualism involved in the separation of subject-matter from method. Since experience is transactional, the operation of intelligence is guided by the object upon which it is exercised: 'The only significant method is the method of the mind as it reaches out and assimilates' (Dewey, 1956a, p. 9). In Piagetian terms (here anticipated by Dewey), we have to consider how the child's mind can assimilate the elements and accommodate them to his thinking. Elsewhere we encounter this same regard for intelligence: 'Growth depends upon the presence of difficulty to be overcome by the exercise of intelligence' (Dewey, 1963, p. 79).

Unfortunately, Dewey commonly conceives the intellect as operating largely within the terms of the child's practical experience: 'you can concentrate the history of all mankind into the evolution of the flax, cotton and wool fibers into clothing' (Dewey, 1956b, p. 22). In *The School and Society* Dewey devotes several pages to a practical illustration showing how 'children shall be led out into a realization of the historic development of man' (Dewey, 1956b, p. 19). Such an illustration denies the validity of intellectual and imaginative experience. We would do well to affirm that there is a discipline of the subject as well as that of the child. What the race has accumulated imposes its own requirements.

Nobody is likely to question the necessity of exercising due regard for the child in learning. The trouble is that we sometimes remain too much within the child's experience. The experience of the child requires to be enhanced and codified by having fed into it that experience of other people's minds which lies a little beyond his own, so that the child's mind does indeed reach out and assimilate. To this end we need to structure teaching as well as learning. Godfrey Thomson once reasonably remarked that 'incidental learning, though most important, is not enough' (Thomson, 1929, p. 95)—not, of course, that all discovery-learning is incidental only. If we accept the need for structure, then we must ask in what way discovery methods, which tend, *per se*, to be organizationally divergent, can be effectively structured. Serious thought should be given to incorporating with them a definite measure of convergent learning. Teacher-centred methods and child-centred methods should be judged pragmatically, that is, in relation to the situation as it is, to the facts as they are.

In recent years Professor Bantock has been a trenchant critic of Dewey, and it is difficult not to accept his argument that not all learning begins in experience:

> Now the source of Rousseau's error is comparatively simple; it springs from his belief, which is inherited from Locke, that the sole origin of human knowledge is to be found in immediate sense experience of 'things' and objects external to the human being . . . 'Our first teachers in natural philosophy,' Rousseau asserts, 'are our feet, hands and eyes' . . . in other words, our sense experiences and observations; and he insists, 'experience precedes instruction.'
>
> (Bantock, 1969, p. 113)

Child-centredness has its limitations. Professor Bantock is quite right in stating:

> It is of the nature of children that they see the world as an appendage of themselves and their own desires. Part of the difficulty in growing up comes from the necessity of transcending this egocentric system and admitting the external world.
>
> (Bantock, 1963, p. 52)

Because, for Dewey, so much of education begins in experience, he tends to interpret experience in the practical sense. In his Laboratory School, for instance, in addition to emphasizing the practical arts, he invariably considers intellectual learning within the context of society. His attitude towards literature shows a disregard for its quality and potential, and he even refers to the danger of over-stimulating a child with stories:

> As regards the study of literature, perhaps the most striking departure from methods pursued in other progressive schools is that literature is regarded as social expression. It is approached, therefore, through the medium of history, instead of studying history through the medium of literature. This method puts the latter subject in its proper perspective, and avoids the danger of distracting and over-stimulating the child with stories which to him (however they may be to the adult) are simply stories.   (Mayhew and Edwards, 1966, p. 31)

It is regrettable that Dewey devalued the education of the mind by underlining so much the practicalities of life: cooking becomes an avenue to chemistry, sewing to geography, and both to mathematics. Mayhew and Edwards record Dewey's sense of the importance of developing academic studies from ordinary present-day situations, such as history from the study of industrial development and reading from its close connexion with other subjects. The claims are considerable:

Children get a good deal of chemistry in connection with cooking, of number-work and geometrical principles in connection with their theoretical work in carpentry, and quite an amount of geography very easily and naturally in connection with sewing. History enters in as the story of industrial development and growth of various inventions.

Upon the whole, greater attention has been given to the relation of the positive subject-matter to the activity program, than to any other one aspect. History is introduced at a very early period and is conducted on the principle that it is a means of affording the child insight into social life. It is treated, therefore, not as a record of something which is past and gone, but as a way of realizing what enters into the make-up of society and of how society has grown to be what it is. Treated thus, as a mode of insight into social life, great emphasis is laid upon the typical relations of humanity to nature, as summed up in the development of food, shelter, habitation, clothing, and industrial occupations. This affords insight into the fundamental processes and instruments which have controlled the development of civilization and also affords natural and frequent opportunities for adjusting the work in history to that in manual training on the one side, and to science on the other.

(Mayhew and Edwards, 1966, pp. 29–30)

Dewey also refers to the evils in the use of books as texts:

The prevalent use of text-books has two evils. First, the child forms a habit of depending upon them and comes almost instictively to assume the book is the chief, if not the only way, of getting information. Then, the use of books, as texts, throws the mind into a passive and absorbing attitude. The child is learning instead of inquiring.

(Mayhew and Edwards, 1966, p. 27)

There is a difference between the use of text-books and the use of books as texts. If he intends the former then there can be some justification, though it all depends upon the quality of the text book. If he means the latter then Dewey is neglecting a basic means whereby the experience of minds is passed from one person to another. In any event, the passage arouses many doubts. Is there not a Wordsworthian wise passiveness? Why assume that passivity does not involve inquiry? Is thought inactive? If a person is in the process of absorbing, is he not active? What is wrong with absorbing through a book accumulated knowledge? Books can engage a reader actively giving him a knowledge of things which his environment and his own practical experience cannot provide. Is poetry not to be absorbed? Why the dichotomy between 'learning' and 'inquiring'? We have to conclude that Dewey is biased towards a non-intellectual view of educational content, a position which he openly adopts when he writes:

The simple facts of the case are that in the great majority of human beings the distinctively intellectual interest is not dominant. They have the so-called practical impulse and disposition.

(Dewey, 1956b, p. 27)

4. THE PLACE OF THE INTELLECT

But are the facts so simple? Is the intellectual interest not dominant because it is inherently minimal or because it has not been called into being? Do Dewey's views do anything to call it into being? One of the several distinguishing marks of a school is that it is a place for intellectual learning at varying levels. Further, one of the distinguishing needs of life is that people shall use their intelligence to interpret the world around them, and that includes employing their intelligence in the vital instrumental or transactional manner advocated by Dewey. Modern sociologists suggest that far more people than ever Dewey's generation anticipated are capable of using their intelligence at high levels, so that in not applying his theories to intellectual learning Dewey was not advancing the cause of education.

Jerome Bruner's comment that 'We may take as perhaps the most general objective of education that it cultivate excellence' (Bruner, 1960, p. 9) points in a very different direction, and we can note that he does not limit his cultivation of excellence to a select class of people supposedly only capable of receiving it:

It here refers not only to schooling the better student but also to helping each student achieve his optimum intellectual development.

(Bruner, 1960, p. 9)

There is no wish in Bruner to deny two centuries of Rousseau-inspired child-centred education but he does wish to connect child-centred teaching to intellectual development:

How, within this context [the culture of the school] do we arouse the child's interest in the world of ideas?

(Bruner, 1960, p. 73)

It is not unreasonable to consider man as most distinguished from the rest of creation by his ability to think analytically and to imagine creatively. Mind, and the arts and crafts that mind has developed, have interacted to produce a still accumulating culture which it is part of education's job to disseminate and to pass critically from one generation to the next, so that the individual, starting with his own experiences, actual and imaginative, is able to construct a continuum

of transactions that allows him to build further for himself and others.

The mind's analytical mode of operation suggests a reason for pedagogical subject divisions; its ability to create suggests a reason for project-type activities. If the abolition of subject divisions in the interest of cross-fertilization results in obscurity instead of clarity, then we should have nothing to do with it. Equally, there is a lot to be said for the integration of subjects for functional reasons, but very little for integration merely for idealistic principle. Regrettably, Dewey did not examine the matter pragmatically but rejected subject divisions in favour of his *ideal* of an education adapted to the needs of society.

Whatever is 'out there' (objectively set forth by or through the teacher) must be realized 'in there' (subjectively perceived by the child) before it has meaning. When we say 'out there' we do not mean that the children in the course of well organized discovery projects may not find out a deal of knowledge, both incidental and connected, but the teacher ought to be certain that he does not just rely on the children's finding out, that he knows what minimum there is to be found out, and that he structures his organization so that this minimum *is* discovered. There is no educational future for anyone in the retreat of the teacher to the distant periphery. We need to recognize that the mere existence of organizational links across the multi-purpose discovery syllabus does not constitute integration. It is a mistake to think that, even when integration is achieved from the adult's point of view, it also is from the child's. Further, we should aim for a situation that brings order and clarity to the minds of the pupils and, if this depends in project methods upon the discovery of the minimum, then it depends as well upon the teacher's inspirational use of the here and now.

Dewey's emphasis upon the practical at the expense of the intellectual, and his constant aim to achieve a complementary democratic parity between school and society suggests that he was frightened of élitism, as though he confused élitism with excellence. The confusion is double. Excellence is relative to the person. An excellent standard for one person may be only a modest accomplishment for another, but each level of excellence requires to be judged by a consensus of informed opinion. If the pursuit of an excellence produces an élite based on mental performance then this is acceptable, as is also any other kind of élite based on merited excellence, such as crafts-

manship in words or wood for instance. If merited excellence engenders class distinction or social élitism, then to that extent education fails.

Dewey's belittling of the intellect affords Professor Bantock a weapon with which to attack Dewey sweepingly:

> by introducing the ethos of 'mass-man' into the traditional curricula of the learned, Dewey represents a threat to the whole tradition of European scholarship.
>
> (Bantock, 1963, p. 55)

He objects to Dewey's denial of a hierarchy of values and his assertion of relative values:

> His naturalistic universe *appears* to seek no standard beyond itself; the end to be achieved, he is fond of asserting, is something *within* the process of attainment, not something external to it. He asserts that: 'Since education is not a means to living but is identical with the operation of living a life which is fruitful and inherently significant, the only ultimate value which can be set up is just the process of living itself'. Hence his repudiation of the idea that there is a hierarchy of values.
>
> (Bantock, 1963, p. 38)

Professor Bantock disavows Dewey's rejection of innate authority and his conception of 'continuous reconstructed change' (Bantock, 1963, p. 36), and, most of all, Dewey's dismissal of ideal standpoints:

> Hence the test of value lies in consequences. For instance, the soundness and pertinence of a moral law are 'tested by what happens when it is acted upon'. How it came initially to be framed Dewey never reveals; neither does he tell us on what basis one pattern of behaviour is chosen rather than another. And, indeed, he forgets that even the contention that the moral law seeks to meet human needs depends on some anterior formulation of what constitutes human needs.
>
> (Bantock, 1963, p. 36)

Because of Dewey's desertion of the implications of his thought, Professor Bantock is able to press his charge that Dewey's concept of experience signifies the world of practical events. It is Dewey's own fault. If an instrumentalist theory is described so much in terms of practical experience, it becomes very difficult to make the switch to intellectual experience, as witness Dewey's misunderstanding of the nature of academic knowledge:

> Knowledge which is mainly second-hand, other men's knowledge, tends to become merely verbal. It is no objection to information that it

is clothed in words; communication necessarily takes place through words. But in the degree in which what is communicated cannot be organized into the existing experience of the learner, it becomes *mere* words: that is, pure sense-stimuli, lacking in meaning. Then it operates to call out mechanical reactions, ability to use the vocal organs to repeat statements, or the hand to write or to do 'sums'.

<div align="right">(Dewey, 1966, pp. 187–8)</div>

We can see from the above how verbal knowledge is viewed as inferior to experience, with no thought that language can convey a sense of experience more acute and more spacious than the experience itself. 'Merely' is applied in a pejorative sense, as are the terms 'second-hand' and 'other men's knowledge', which last is wrongly equated with 'information' and is arbitrarily said to produce only 'mechanical reactions'.

5. THE REAL FAILURE

Professor Bantock, applying Santayana's well known criticism that Dewey concerned himself largely with 'the dominance of the fore-ground' is quite right to judge: 'Thus, for Dewey, the subject-matter of human learning only appeals as it relates itself to the social life of man' (Bantock, 1963, pp. 30–1). Yet, essentially the trouble is that Dewey, failing to appreciate the intellectual significance of pragmatism, is unaware of the gap between the implications of his transactional position and his theories of social education. So strong is Dewey's regard for social values as he sees them, that he treats them with the enshrined respect of an idealist for his particular set of values. In *The School and Society* we find no questioning of social ends. Girls are to be trained to become efficient house managers and boys to be prepared for their future vocations (Dewey, 1956b, p. 13). The school's task is to introduce and train each child into membership of the school society (embryonic of the greater community outside), 'saturating him with the spirit of service' (Dewey, 1956b, p. 29). To give a school a more vital hold upon its members, to make it contain more culture (i.e. more of the culture of the community of which it is part), educationists should 'introduce into educational processes the activities which appeal to those whose dominant interest is to do and to make' (Dewey, 1956b, p. 28). Entirely missing is the application of transactional modes of enquiry. In adopting so closed an attitude to the role of social values in education, Dewey is propagating the very error of accepting external ends

of which he complains in his stimulating discussion of aims in education in the chapter so entitled in *Democracy and Education*:

> Theories about the proper end of our activities—educational and moral theories— . . . assume ends lying *outside* our activities . . . ends which issue from some outside source. Then the problem is to bring our activities to bear upon the realization of those externally supplied ends. They are something for which we *ought* to act.

<div align="right">(Dewey, 1966, p. 104)</div>

and again:

> The vice of externally imposed ends has deep roots. Teachers receive them from superior authorities; these authorities accept them from what is current in the community.

<div align="right">(Dewey, 1966, p. 108)</div>

Certainly, it is very difficult to harmonize Dewey's regard for social values with his pragmatic view that 'Genuine thinking winds up, in short, with an appreciation of new values' (Dewey, 1933, p. 101).

If, in our Western civilization, education is for democracy, then it is imperative that we honour the term by understanding the implications of Dewey's instrumental pragmatism. In so far as we can say we *ought* to do something, we can say we *ought* to be pragmatic, for this is to keep before us a whole range of oughts. Dewey's practical educational programme often left him without choice because he accepted the limitation of social ends and the limitation of methods by which learning is entrenched within the context of those social ends. Today, discovery methods are far more liberated and liberating than they were in Dewey's time but, even so, such modes are not the *only* methods of enquiry, even as enjoyment and interest are not the only criteria for learning, for we have to take into consideration the value to the educand of what is being proposed (Bantock, 1965, pp. 99–100). (Here, for once, Professor Bantock is being pragmatic.)

All in all, we are left to assume that insufficient regard for intellect and knowledge, excessive and undiscriminating regard for community ideals, and lack of appreciation of the significance of his instrumental pragmatism for both, are the three aspects of John Dewey's feal failure. Had Dewey been more perceptive and consistent, he might have been opposed by the idealism of Professor Bantock but he could not have been undermined.

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BOOK NOTICES

TISHER, POWER, ENDEAN, *Fundamental Issues in Science Education* (Wiley, 1973, 285 pp. Cloth £4.50, Paper £3.25).

THE Australian authors have gathered issues together in three relatively short sections concerning (a) the context of the curriculum, (b) the professional development of the teacher and (c) techniques for self improvement; together with (d) a longer section on designing learning experiences. One could argue about the definition of 'fundamental' but issues are here in plenty—to the extent even that the warning on p.117 about the limited capacity of the human mind to process information might well be applied to the book itself (particularly if regarded as a *basic* text').

Numerous 'tasks' to be performed by the reader focus attention on the issues. It is unlikely that any one person could attempt all these tasks within a normal course, even if this were desirable, but their number makes it possible for readers to select those tasks most appropriate to their needs. There are some odd omissions however. Task 16.8 notes the absence of any one section devoted to lesson preparation, though there are relevant sections in various parts of the book. Surely this is a sufficiently fundamental issue for the student teacher to merit greater attention? Similarly the problem of teachers' and pupils' language would seem to warrant more attention than that given fleetingly in task 6.1. There is a tendency to raise issues without providing any answers. This is no doubt deliberately done to avoid the 'cookbook' approach (p.2) but it is likely to mean that the book is most effective when used by groups of students, rather than by isolated individuals.

The book is very well referenced. The balance of these is not tipped too far in the Australian direction and there are many references to English and American sources, bodies and courses. These are usually very up to date but the news that the Science Masters Association has long been 'coeducational' has clearly not reached the Antipodes (p.208).

Where the contents of a book are as extensive as in this one, there are almost inevitable difficulties in presenting balanced points of view, and providing sufficient detail for clarity yet balancing the relative importance of the topics. There are, of course, instances where the interests of the authors are apparent (e.g. pp.117-119) but on the whole genuine and successful attempts seem to have been made to present more than one argument relating to the issues which arise.

Fluent use of language, variation in the organisation of the chapters and occasional flashes of humour make this a readable book. It could well

find ready use as a source book on initial, induction and inservice courses, and keen students prepared to buy the book during their initial courses and continue to use it in the early years of teaching will derive personal benefit from it and find the rather high cost of even the paperback version to be good value.

M. J. Tebbutt

Jennifer K. Holbrook, *Gymnastics. A Movement Activity* (MacDonald and Evans Ltd.).

'Young children bring to the school situation a tremendous capacity for a variety of movement and a considerable mastery of it.'

For the teacher who is faced with this challenge a knowledge of principals, material and methods of initiating movement is essential, and the author's intention is to help teachers to develop the children's potential in movement.

A short introductory chapter on historical development places current trends in perspective and the following chapters on the core content of movement give clear indication of material. The stress is laid on dynamics, space and relationships and these aspects are clarified and summarised by useful diagrams. A vocabulary of words is included as the author suggests that 'a wide vocabulary is essential if a teacher is to develop an articulate approach to the different components of movement involved in a child's attempts to create a movement phrase'. This will be welcomed by many teachers who see the verbalising of experience as a fundamental part of the learning process.

The second part of the book is concerned with teaching methods and reflects the author's expertise in her subject. She provides helpful guide-lines to planning and selection of content and the practical suggestions for lesson plans are clearly set out in terms of method. It is evident that the crux of the teaching situation lies in observation and the ability to build on this. In a number of recent publications the photographic material gives only a general impression of the movement situation, but in this book the photographs are lively and closely related to the text.

The final chapter on the relationship of gymnastics with other studies will provide a stimulus to those who have been experimenting along these lines. The discipline inherent in movement education may lead to interesting links with language development, visual arts and other areas of knowledge so that the child's world becomes more than 'a collection of inert ideas, of arbitrary subject boundaries'.

C. Roberts

H. C. Gunzberg (Ed) *Advances in the Care of the Mentally Handicapped*
(British Society for the Study of Subnormality, Distributed by Bail-
liere, Tindal, London. pp234, Hard Covers. £4.50.)

This volume is presented to mark the 21st Aniversary of the *British
Society for the Study of Subnormality*. It consists of twenty-nine articles
previously published in *The British Journal of Mental Subnormality*
between 1956 and 1972, each revised by its author and with references
up-dated. The editor contributes an introduction which reviews progress,
assesses the current situation and identifies the central problems facing
those who care for, educate or rehabilitate the subnormal person.

The articles are written in largely non-technical language and offer a
broad introduction to the field of subnormality which should stimulate
readers new to the field and offer useful inter-disciplinary insights to pro
fessionals skilled in their own area.

Of most interest to educators will be the section on the education of
the multiply handicapped, a relatively neglected area; that on General
Education, including Cashdan on Learning and Transfer, Woodward on
Piagetian Theory in Training the Subnormal, and Sampson on Speech
Development and Improvement. Most teachers would learn something
from these articles of direct use in their daily work with subnormal pupils.
Teachers of subnormal adolescents would also gain from the three articles
on Industrial Rehabilitation. Administrators and those responsible for
developing services will find much of interest in the three articles on design
and architecture in the section on The Physical Environment.

The roles of psychiatrist, clinical psychologist and nurse are discussed
in a section on The Contribution of Some Disciplines. Not a word about
the teacher! Possibly this reflects the low status of teachers before the
Education Act of 1971 and is also influenced by the strong bias towards
hospital work which runs through the selections. It is the involvement of
fully professionally trained teachers in their education which may become
the most significant factor in improving the education *and* the care of
subnormal persons: perhaps the 42nd anniversary volume will reflect this!

At this stage in the development of services for the subnormal person,
when many new workers are entering the field, a volume of this kind makes
an essential contribution to the dissemination of information and the stimu-
lation of interest, both lay and professional. The society and its editor
are to be congratualted on the assembly of these able and catholic contri-
butions which have also played their part in shaping the development of
attitudes and services over the time they span. This book should be in
the staff library of every school dealing with severely ESN pupils and the
articles concerned with learning and education could become the focal
points of a series of useful staff discussions.

The book has no index, but the presentation of the subject matter as reprinted journal articles reduces the inconvenience to the reader.

W. K. BRENNAN

ROBERT BELL AND NIGEL GRANT, *A Mythology of British Education* (Panther Books 1974, 158 pp. £0.50)

THE authors begin their book with the words, "The trouble with myth is not that it is wrong, but that it is irrational and believed. Wrong statements can be refuted by evidence, faulty deductions can be subjected to the litmus test of logic. But myth is exempt from all this." The very title of their chapters are evidence of casting a cold eye on the educational absurdities of our times, 'Ritual and Rhetoric', 'The Islands of Sainted Scholars', 'The Remarkable Case of Mr. Tom Brown' to name but three.

But this is no ordinary demolition job. As the authors emphasise myth does not flourish without a cause. Though educational myth is neither as picturesque nor as dramatic as classical myth it arises from the same emotional need to believe and has the tendency to grow and feed on this need in geometric proportions. But whereas classical myth has been entertained by many writers with tongue-in-cheek, educational myth is too often regarded as either divinely inspired or socially pure and therefore unchallengable. There has been too little wit, too little self-criticism, too little irony in considering educational myths. Truly 'the image creates its own reality'—or did until this book saw the light of day. Does it really matter then if erroneous myths abound? Are they not harmless enough? The authors suggest that "No error is harmless if it distorts the picture, confuses the issue, and puts irrational obstacles in the way of rational discussion."

They then proceed to demonstrate their thesis by examining educational systems and educational writing both at home and abroad. They emphasise that the slack use of words is the greatest enemy of clear thinking about education. They discuss the ethnocentricism of much of our thought in regard to the educational process. Myth tends to distort the evidence from other countries too. America, for example, had seven universities by the end of the 18th Century when England had two and Scotland four, though myth might well have us believe in the quantitative supremacy of the Old World.

The authors are fairly severe on the myths generated about both universities and the secondary school stage of schooling. Some of the claims of the luminaries from both areas are shown in the light of the facts to be breathtaking in their audacity and their naivety, the more so because

such espousal by traditionally 'top' people gives wider credibility to error. This seems to me the crux of the matter. Since myths are the basis of much educational decision making, as the authors cogently illustrate, not only the decision makers but those affected by them—the latter being by far the larger number—have to suffer the illogical and sometimes absurd results.

All in all then this book is splendid value for money in these dear days. While popular in conception it is neither carelessly planned nor slovenly executed but is a model of condensed exposition. If there be a fault it is perhaps to imply that myths are the prerogative of public figures. The underground educational press too is not free of this particular fault. Underground or overground their refutation can only be at the cost of eternal vigilance.

GERALD CORTIS

ROY NASH, *Classrooms Observed* (Routledge and Kegan Paul, 1973, £2.50 Cloth Edition, £1.25 paperback).

PREVIOUS reviews of this excellent book have tended to concentrate on the fact that Nash found a significant association between classroom clique formation and the teacher's attitude to individual pupils. Clearly the finding that the friendships that children make tend to reflect their relationship with the teacher is news. But for me the central lesson of the book is that if you want to construct theories about how children learn in the classroom, go into the classroom and watch them learn. This may seem very obvious to the practising teacher; but as Nash has pointed out, the traditional approach of the educational psychologist has been the empirical one, based on an input/output model, with precious little attention paid to what comes in between. This means that we know, say, that anxious children learn more effectively in certain types of classroom regime; but what we do not know is why this is so, and how they learn. The value of Nash's approach is that it throws light on process as well as result. As a non-participant observer he was able to obtain a rich variety of data, ranging from impressionistic sketches of individuals IN SITU to the 'hard' data so beloved by the empiricist. The result is a brilliant, albeit depressing, picture of how classrooms work.

Nash's general viewpoint is not an unfamiliar one: the expectations which the teacher forms about the capabilities of individual children are transmitted to the child and to the rest of the class, and come to exercise a powerful monitoring effect. The central concept here is of the 'managed identity': the attitudes of the teacher to the child are conveyed through interaction. The reflected appraisals (to use the terminology of George

Mead) build up in the child a self-image so that he comes to see himself as the teacher sees him, and as his classmates see him. Nash was able to show that a fairly close relationship existed between the assessment made of the child by the teacher, by his classmates, and by himself. As I have pointed out earlier, several of Nash's findings are not unexpected. What is new, I think, is the way in which the mechanics of the thing are laid bare. In a series of brilliant sketches Nash shows us how the self-image of the child is built up by the teacher, and in some cases the experience is a sober one. In one record lasting fifteen minutes long, Nash found that certain children were constantly chivvied by the teacher. These children in the main ended up in the remedial section of a secondary school, to which they were sent. Nash built up an almost identical sample which was not consigned to the remedial class, the main difference being that this latter group were much more acceptable to teachers than the former.

I think that Nash's investigation is an important one, perhaps a seminal one. I am not sure that I agree with him in his enthusiastic endorsement of personal constructs. I certainly disagree with him when he contradicts Donnison (1972), who believes that no change in the school is going to make any difference to the underachievement of children from poor homes. What I do agree with is his approach to research in the classroom, and his conclusion that our task is to enlarge the CONSCIOUSNESS of the practising teacher. Only by enlarging their consciousness of what is really happening in classrooms can we help them to make those rational decisions which are at the heart of all good teaching.

<div style="text-align: right">J. DOHERTY</div>

J. A. WANKOWSKI and J. B. COX *Temperament, Motivation and Academic Achievement* (University of Birmingham Educational Survey and Counselling Unit 1974, £1.00)

THIS is a report, as the sub-title indicates, of "studies of success and failure of a random sample of students in one University"—to wit, Birmingham. It is a summary of a much larger set of full reports, but serves well to indicate the main conclusions. It contains an introduction, which elaborates on the design of the study; a summary of findings and conclusions; and a set of recommendations. It would be impossible to indicate even in outline any of the details in the space of a brief review; clearly this study is prescribed reading for anyone concerned with university education, or preparation therefore. It is clearly written, properly analyzed, and many of the results are of outstanding interest. Perusal of the report makes one wonder why this sort of thing has not been done before (only the University of Sussex has comparable data, but has not analyzed them yet!) One feels that every University should have a special unit carrying out follow-

up research of this type, administering personality and ability tests at entry, and charting the course of different types of students over the years, as well as monitoring changes taking place in the student sample, their choice of study area, and their success and failure. Only firm knowledge of this kind will help us to solve some of the problems thrown up in the past, and likely to be thrown up even more profusely in the future, by the expansion of University education.

One of the most interesting sections deals with the relation between personality and success or failure. Quite high correlations are reported between introversion and success, and between neuroticism (emotional instability) and failure; stable introverts do very much better than neurotic extraverts in obtaining first-class degrees, for instance. These correlations are just about as high as those between admission grades and achievement, indicating the absolute necessity of taking personality into account in predicting future performance. Furthermore, personality and ability interact; correlations between admission grades and achievement are quite high (above .5) for stable introverts, but negligible for groups of students with other temperamental dispositions. Personality traits are also related to student's choice of subject for study. Stable people tend to concentrate on "practically" biased courses, whilst those with neurotic tendencies predominate in "people oriented" areas of study. Introverts prefer theoretical and extraverts practical or "people oriented" areas. Sociologists, as one might expect, congregate in the psychopathic quadrant! Altogether a fascinating and rewarding report.

H. J. EYSENCK

MILTON SCHWEBEL and JANE RAPH (Eds.) *Piaget in the Classroom* (Routledge and Kegan Paul, 1974, £3.50, Paperback £1.50). Foreword by J. Piaget.

THIS book is divided into three main parts. Together these contain 13 chapters written by eleven authors. Part one consists of three chapters, two of which are written by Sinclair and deal respectively with the movement of the child's thinking from pre-operational to concrete operational thought, and with recent learning studies carried out from a Piagetian perspective. In the second part, the chapter by Birns and Golden is concerned with the contribution of Piaget to our understanding of children in the infancy period, whilst that of Duckworth relates children's language and linguistic structures to their thought. A further chapter by Voyat further discusses the growth of children's intelligence and the very practical implications that follow.

Part three attempts to relate Piagetian theory more directly to the

classroom. Wickens uses the theory to provide a conceptual framework for open-system educational programmes. Kamii contributes two chapters: in the first she reiterates points made by Wickens, namely that learning is actively constructed from within, and that social interactions among children are of the greatest importance in this respect. In the second, she outlines what may be called Piaget's interactionism and its educational implications. The book concludes with three further chapters which describe in varying ways, the implications of Piaget's formulations for the teacher who wishes to develop his skills.

In general the text is clearly written, and there is much in the book which is of considerable value to the teacher and teacher-to-be, particularly, in this reviewer's judgment, the chapters by Sinclair, Duckworth (on Language and Thought), Voyat, Wickens and Kamii. On the other hand, there is some overlap between the contributions, and it is difficult to see how the chapter by Gruber on the development of the thinking and of the ideas of Charles Darwin fits easily and naturally with the others. However, taken together, the authors have certainly tried to relate theory and practice, and they emphasize the role which, in Piaget's view, actions play in the growth of intelligence and knowledge. But the reader must note that the book does not take us beyond the teaching of children of about 9 years of age, so that teachers of older children, and teachers who are looking for help in dealing with specific aspects of the curriculum (e.g. mathematics, science, history) will have to supplement and, indeed, read far beyond this text. Nevertheless, the book can be safely recommended to teachers and students if these limitations are carefully kept in mind.

K. LOVELL

D. J. STEEL AND L. TAYLOR, *Family History in Schools* (Phillimore & Co. Ltd., 180 pp. £1.50)

TOWARDS the end of this book, which offers a plea for the study of family history in school, a number of teachers who have adopted this approach reflect on its value. One of them stumbles upon, and fails to recognize, the one major objection to the widespread adoption of family history in schools. He writes:

> 'My colleague sent duplicated letters to parents of his group, explaining the purpose of the project and inviting their cooperation. Out of 15 letters, about 12 met with point blank refusals, some expressing concern that children were being encouraged to pry. Forewarned, but undaunted by this experience, I decided not to approach parents immediately but to see what their reaction would be once the project was, in fact, under way . . . Undoubtedly, it is a major tactical error to invite parental cooperation at the start.'

Since the authors see fit to reproduce this passage without comment, we must assume that they concur. It could be argued that even an enquiry from school as to whether parents will allow their child to study their own history is an unwarranted and unacceptable intrusion on individual and family privacy. Those families which refuse could well raise in the mind of the child the question of whether the refusal is one of principle or whether there really is a skeleton tucked away in the cupboard. Those which do participate leave themselves open to situations in which the life-styles of the home are exposed to critical scrutiny:

> 'One boy, with a particularly bad home background, had tried unsuccessfully to trace his paternal grandfather. All his father could tell him was that his Grandad had been put into an old people's home in London. He could not even say which.' In this instance the boy discovered that his grandfather had died some weeks previously.

This is an area in which historians, keen to show the significance of their discipline, are meeting problems in areas of recent research which social investigators have for long attempted to resolve satisfactorily. The authors' section on meeting problems of confidentiality did not convince this reviewer that they have a satisfactory solution.

This apart, this book offers a brief and sensible statement on the aims of studying history in school, some remarks on the ways in which family history relates to other disciplines, and much sensible advice on sources and modes of study. The approach reflects a very proper determination to work from individual, concrete examples, and to induce children to pose truly historical question. This strategy has much to commend it, but until satisfactory answers are offered to the ethical problems involved, it is not possible to share the authors' hope that 'with Family History it will be the teachers who show the historians the validity of the approach.'

R. A. LOWE

PHILIP TAYLOR & JACK WALTON, *The Curriculum: Research, Innovation and Change* (Ward Lock Educational, London, 160 pp. Price £2.75 cloth, £1.35 paper).

THIS is the report of the first Standing Conference on Curriculum Studies. It consists of two keynote lectures and ten short papers from the five conference groups, each group report being briefly introduced by the chairman. The book, like the Conference, reflects Curriculum Studies: 'perhaps no more than a pseudo-discipline, a whistling in the dark in a time of change and uncertainty' (Barnes, p. 67).

So this is a collection of diffuse paired offerings on different curriculum themes: in some ways not unlike a bumper Curriculum issue of the

Guardian, with reportage, leaders, comment, analysis, even a report from the Weatherman. The keynote lectures (keynotes neither to the conference nor the book) are a 'classical' Hirst piece and a 'romantic' Musgrove mystery tour. Hirst firmly insists on the rigorous logic of rational curriculum development: but, of course, 'the actual context in which we have to plan, may, for many reasons, permit only limited application of the logical principles involved' (p. 22). So the curriculum developer is left wondering, as with the problems of behavioural objectives, whether he tries to fit the context to the principles, or recognises the principles as of marginal utility. Musgrove gives us a kaleidoscopic view of the naughty counter-culture. Reading this paper, as opposed to being swept along by the charm of its delivery, is irritating indeed. For here and there a delicate veil is gently lifted and dropped: 'curriculum development is largely senseless because of the disjunction between micro-level and macro-level anaylsis' . . . there is a 'disassociation between structure and meaning which curriculum developers should ponder' (pp. 34/35). Someday, perhaps, Musgrove will let us into his ponderings on this matter vis-a-vis curriculum development.

Yet what is striking and encouraging is the lack of complacency, the awareness of limitations, and the determination that, if we are to be in the dark, then at least one thing we can do is to whistle. There are no extravagant claims, no curriculum theory muck-raking, but tentative explorations of various fronts on which Curriculum Studies might advance. Rudd provides an insightful account of teacher-involvement in curriculum development, with sensible suggestions for consortia for innovation: that way there's an innovation safety net. Watts gives some useful impressions of an innovatory school, while Eggleston pursues some thoughts about evaluation with some tough-minded data in tow. Reid notes the place for these different kinds of contribution, the need to accept our impressions as data till we see more clearly what we are about. Skilbeck as usual provides a sensitive discussion paper on the open culture/structured curriculum dichotomy, while Pring enters some sane caveats about interdisciplinary failure in teaching Curriculum Studies and the dangers of a closed Curriculum Studies curriculum. If Curriculum Studies is to emerge into the light, then by the time it comes of age, the Standing Conference will recognise that these first tentative steps, whatever their limitations, were steps in the right direction.

HUGH SOCKETT

D. BOYD, *Elites and their Education* (NFER, 1973, 159 pp., £2.30).

THIS is a serviceable and lucidly written study, somewhat lacking in analytical depth. The first three chapters placing the author's own re-

search in its wider context bear the marks of the work's Ph.D. thesis legacy quite strongly (all-sources-are-equal, and the more of them the merrier). They leave him with four conclusions relating to the eight élite groups (ranging from C. of E. bishops and assistant bishops to marshals and vice-marshals of the R.A.F.) he sets out to examine, namely that: over the period 1939–1970/71 only among senior civil servants did the hold of the public schools weaken; ditto, and also in the Church of England élite, when *major* public schools are considered; next, only in the C. of E. group did the proportion of Oxbridge men decline; lastly, "the rate of upward inter-generational mobility among élite personnel has not increased significantly during this period".

Dr. Boyd then proceeds to explain his research and usefully to tabulate its substantive findings, which result in support—if rather differentially—for the aforesaid conclusions of earlier researchers. On these, his bibliography appears quite comprehensive, but it did not take the present reviewer long to notice a dozen or so gaps. The author's attempt to employ R. H. Turner's theoretical framework of "contest" and "sponsored" social mobility through education is praiseworthy and interesting, and his statistical methods sensibly adequate. The trends he has established, however, do not seem to be related to the overall expansion and change in the British educational system within the period, and rather inadequately to the family background of his subjects—the father's appearance or otherwise in *Who's Who* being the criterion.

It is thus with some reservations that the present work may be recommended as an up-to-date introduction to a complex and fascinating area of socio-educational study.

R. SZRETER

INFORMATION FOR CONTRIBUTORS

The *Educational Review* publishes three times a year general articles and accounts of research of interest to teachers, to lecturers, to research workers in education and educational psychology and to students of education. Articles dealing with research, with descriptions of experimental work in schools, with critical reviews of teaching methods or curricular content in schools will receive special consideration. In addition, the Editors will accept from time to time articles on administrative problems, on tests and measurement, on child growth and development and on the relation of schools to the community.

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EDUCATIONAL REVIEW

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Because of higher printing costs, we regret that from June 1st, 1975, the annual subscription to *Educational Review* will be increased to £3.00 including postage. Subscribers paying in foreign currency should add 15% to cover conversion charges. The new rate will apply to present subscribers at the expiration of their current subscription.

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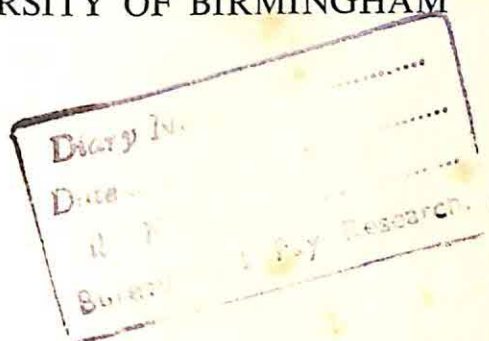
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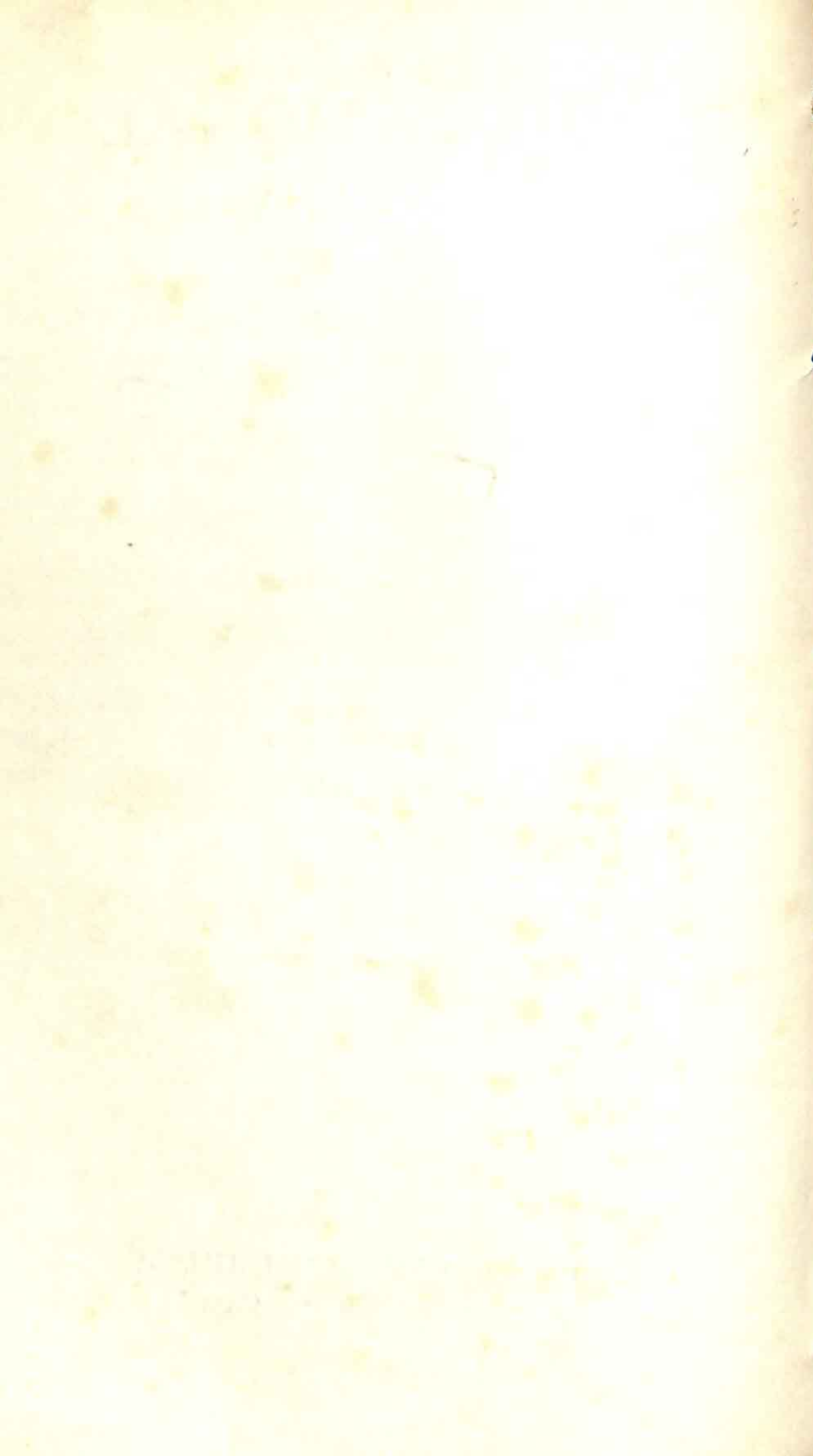
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EDUCATIONAL REVIEW

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INTRODUCTION

I T IS now clear that the study of sexual differences will be important for education in the years that lie ahead. For this reason it is fitting that the *Educational Review* should devote a special issue to the topic. The selection of papers that follows is an interesting and varied one. There are two extreme positions that one can take up in this debate. One is what Diane McGuinness terms 'bio-deterministic': that sexual differences are innate, and arise because of the differing genetic structures. The other, the cultural explanation, was spelled out by Margaret Mead many years ago. It is that 'certain human traits have been socially specialized as the appropriate attitudes and behaviour of only one sex, while other human traits have been specialized for the opposite sex. This social specialization is then rationalized into a theory that the socially decreed behaviour is natural for one sex and unnatural for the other . . . " (1). It is obvious that certain contributors subscribe more to the latter point of view; and yet as Diane McGuinness points out, we must surely take into account both culture *and* biology. We must accept the fact that 'males and females are different, not only physiologically but in disposition and intellectual capacities'. What is important is that parents, educators and employees place the same value on different configurations of personality and ability, and so prevent the odious inequality which at present exists between the sexes.

This view point is to a large extent shared by Dale, who also reminds us that 'individual differences are more important in education than sex differences'. Yet one cannot ignore the force of cultural conditioning: attitude and expectations concerning both sexes are pervasive and powerful. Mary Hoffman indicates how they are presented in books on sex education, Glenys Lobban in reading schemes. It is alarming that educators (mostly men) seem to accept the stereotypes which society has established. Lynn Davies and Roland Meighan present a thoughtful review of how secondary

1. Margaret Mead (1935), "Sex and Temperament in Three Primitive Societies," (Mentor Edition, 1950, page 203).

schooling can, and does, reinforce sex roles. Eileen Byrne indicates how these attitudes and expectations concerning the sexes lead to different and unequal provision of resources in the school. In a world where rationality is supposed to hold sway, it is disturbing to find that the majority of educators have not yet begun to question assumptions which could prove harmful to fifty per cent of their pupils. As Margherita Rendel points out, women are discriminated against even when they have proved their equality with, or superiority to, men. It is encouraging that the Committee of Vice-Chancellors and Principals of the Universities have acknowledged some aspects of this discrimination, and are taking steps to remove them.

The question of sexual differences is, however, extremely complicated. One is reminded again and again of the nature/nurture controversies which rage in the field of intelligence. Indeed, the same dilemma and procedural difficulties exist for anyone who wishes to study these differences at first hand. It is hoped, however, that the selection of papers which follows will sustain interest in what should be a major issue in education for the forseeable future.

JIM DOHERTY.

A REVIEW OF SCHOOLING AND SEX ROLES, WITH PARTICULAR REFERENCE TO THE EXPERIENCE OF GIRLS IN SECONDARY SCHOOLS

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ABSTRACT

After leaving primary school, most girls experience an ever decreasing set of possibilities so that they gradually become channelled into the traditional female occupations of teaching, nursing, catering, office work, retailing or hairdressing. The secondary years of schooling would appear to be crucial in defining a girl's future, since this is when the selection of subjects to study is made, and decisions are taken about staying on for 'A' levels and eventually about entry for further education.

The feminist propositions that our society has institutions and attitudes intentionally or unintentionally harmful to both the self concept of women and their life chances, may well include schools. On the evidence so far, there appears to be a strong possibility that in secondary schools in particular, this is the case, and that a complex web of influences is involved.

I. INTRODUCTION

EDUCATION has perhaps more than its fair share of unsolved mysteries. Some have received rather more attention than others. One rather neglected issue is the relative failure of girls during the secondary phase of education in England. Many girls, who appear to be at least the equals of boys in terms of formal school achievement at eleven years, fall behind during secondary schooling.

The parity of boys' and girls' achievements in school up to eleven years has been shown in studies in the U.S.A. (Maccoby 1966) and in

England and Wales (Douglas 1964). Douglas summarised his research thus: "The tests which are mainly based on performance in school subjects show the girls as being slightly superior to the boys at both eight and eleven years."

Although by 1970 the number of boys exceeding girls taking 'O' level examinations had reduced to 5%, at 'A' level this differential was still 32% in favour of the boys. The smaller cohort of girls also tended to take Arts rather than Sciences. (Table 1).

TABLE I

G.C.E. Passes at 'A' Level

	Passes in Thousands	
	Boys	Girls
Biology	9	8
Chemistry	16	5
Physics	23	4
Mathematics	33	8
Languages	28	45

Table 1: Extracts from Records of the Government Statistical Service 1970

This confirmed the trend at 'O' level where just under twice as many boys recorded passes in Science subjects than girls. In terms of further education, this is disadvantageous because of the pressure for Arts places in universities and of the Science based nature of the majority of Polytechnic courses. Entry to most apprenticeships requires a similar science or technical base. This may be part of the reason why 42.3% of boys are apprenticed to skilled occupations compared with 7.1% of girls. (H.M.S.O. 1973). Furthermore, nearly four times as many boys as girls enter Day Release to prepare for Ordinary National and Higher National Certificates and Diplomas. Nearly twice as many boys go to university as girls. (7.6% compared with 4.4%). Girls who have not reached their educational potential in school, have even less chance once they have left.

The one outlet in further education readily open to girls is teaching, especially primary school teaching, and over three times as many girls are found in colleges of education as boys. The proposed cut back in teacher training of approaching 50% may have detrimental effects for girls as a result.

2. THE LACK OF PREVIOUS RESEARCH

Since the 1944 Education Act, the focus of sociological analyses on equality of opportunity has been on social class rather than sex typing.

Therefore, books on the sociology of education rate at best a chapter on women or sex differences and at worst, not even a reference in the index. 'Compensatory' education for girls has not emerged as an issue and such disparities as have emerged have been as part of larger studies. (cf. Douglas 1964, 1968)

The reasons for this comparative neglect are complex. Firstly, educational research has followed contemporary definitions of what constituted an educational problem, thus looking at wastage of talent, inequality of opportunity, immigrant children, school leaving ages and school organizational features. Inequality of opportunity between the sexes was rarely recognized as a problem, or at most seen as an anachronism that would disappear with co-education. Secondly, sex typing appears to be a deeply embedded and taken-for-granted aspect of the social structure so that the 'commonsense' explanations about the assumed innate intellectual differences between man and women were all too readily acceptable as a complete explanation. The lack of a well developed comparative perspective on education may have been contributory here since a systematic comparison with other countries would have presented some uncomfortable information about women and occupations elsewhere. (e.g. U.S.S.R., Sweden.)

Recognition as an 'official' problem came with an announcement in September 1973 that the Government planned to ask Her Majesty's Inspectorate to undertake an inquiry into the extent to which differences in school curriculum and customs contribute to unequal opportunities for boys and girls. (H.M.S.O. 1973) The influence of various women's liberation groups might be discerned here. (Knight 1973, Smoker 1973) Official opinion was strongly influenced by the evidence to The House of Lords Select Committee on the Anti-Discrimination Bill in 1971-72 and 1972-73. The evidence collected by a group within the Labour Party was particularly influential (Rendel 1968 and Labour Party 1972).

3. EXPLANATIONS OF GIRLS' FAILURE

Amongst the explanations available are the following:
(a) Girls inherit a different set of abilities and aptitudes to boys so that secondary schools follow a natural pattern – and presumably could not alter this even if they wished to do so.
(b) Girls inherit a different set of personality traits to boys so that

secondary schools follow a natura lpattern in providing different motivations with consequent different achievements in boys and girls.

The evidence regarding performance up to eleven years raises questions about the first proposition. (Douglas 1964, Maccoby 1966) Differences in performances in mathematics and science begin to appear during secondary schooling. This raises the possibility of a socialisation process: "In the light of the social expectations about women, it is not surprising that women end up where society expects them to: the surprise is that little girls don't get the message that they are supposed to be stupid until they get into high school." (Boocock 1972) But a partial explanation along the lines of the first hypothesis is given in the paper by McGuinness that follows.

Comparative evidence available is not sympathetic to the second proposition. There is no single trait which we ascribe to males or females in Britain which is not ascribed to the opposite sex in some other country. (Hargreaves 1972) Culture has even been found to affect a woman's basic biology. (Paige 1969) The female traits that have been proposed such as greater field orientation (Fogarty et al 1970), less utilitarianism (Radwiliwicz 1966), less developed moral and political conscience (Morrison and MacIntyre 1971), and more credulity towards authority (Otto 1968), would appear to be learned rather than innate. However, McGuinness shows some sensory differences in her paper that follows.

In addition to these two largely psychological propositions are some sociological ones, and these are the subject of the investigation reported later in this paper.

(c) A society has a traditional allocation of roles of men and women and the agencies of socialisation of the society socialise boys and girls to fit in with that pattern. Secondary schools as an agency of social-isation follow suit, and in this they neither increase nor decrease the options open for girls.

(d) A society has a traditional allocation of the roles of men and women, and secondary schools actively contribute to the further differentiation of roles by effectively closing off more options.

A more optimistic proposition would be that secondary schools are active in resisting the allocation of roles for men and women and in-crease the range of choices for girls. They are therefore instrumental in starting to change the social structure by altering the expectations of girls. The evidence already quoted suggests that this proposition is dubious.

4. GENDER IDENTITY IN PRE-SCHOOL AND PRIMARY SCHOOL

At birth children are given a clearly identifiable sex label by their first name. Boys and girls are dressed differently, given different types of toys, reinforced for different types of behaviour. Mothers typically treat their male and female infants in different ways. (Moss 1967) Parents tend to shape the behaviour of their children – fathers especially discourage any 'feminine' behaviour in sons. (Pitzner 1963) Boys tend to be encouraged to show tenacity, aggressiveness and curiosity, girls to show kindness, obedience and cheerfulness. (Brim 1960) Any biological differences are thereby accentuated.

Children thus learn what Danziger terms a gender identity: "Once they have grasped that they are characterized by their membership in a gender category, this colours their evaluation of persons and activities." (Danziger 1971) A recent experiment supports this proposition. Montemayor (1974) played a game with six to eight year olds with an asexual toy clown. With some children he described the clown as a toy for boys, with others a toy for girls and with others in sex neutral terms. Boys performed better in the game when the boy label was given, girls when the girl label was given. Mortemayor's conclusion was that sex labels were influencing behaviour even in the absence of any outright reward and punishment.

A study of 18 pre-school picture books chosen by the American Association as the best of their kind for that year suggested that picturebook characters reinforce the traditional sex role assumptions about men and women. (Weitzman et al 1972) Females were grossly underrepresented – 261 pictures of males compared to 23 pictures of females. Boys in the picture books were active, and involved in adventures, whereas girls were passive, shown as indoors, either peering through windows or helping with domestic tasks. In 'What Boys Can Be', the ultimate occupation was President, in 'What Girls Can Be', a mother with children. The implicit message for children to learn, the authors conclude, is that girls are not very important, and that their aspirations for the future should be modest and service-orientated.

An analysis of British Reading Schemes (Lobban 1974) showed that male and female roles were depicted as clearly demarcated. Males were active, instrumental and related to the outside world. Females were depicted almost entirely in domestic roles. "In summary, the reading schemes showed a 'real' world peopled by women

and girls who were almost solely involved with domestic activity . . .
The world they depicted was not only sexist, it was more sexist than
present reality . . ."

(The term sexist refers not to mere differences in sex but the
evaluation of one as inferior to the other, female being not just
different, but second best).

5. SOME ASPECTS OF THE OFFICIAL SECONDARY SCHOOL CURRICULUM

Decisions are made on the basis of sex label in various aspects of
the official secondary school curriculum. These include decisions
about timetables, staffing, promotions, games and sports, subjects to
be studied, punishments, books, careers advice and the allocation of
resources. Thus girls tend to be given timetables allocating them to
domestic science rather than metalwork, or netball rather than foot-
ball; they tend to be filtered through to arts rather than science
subjects and if to science, usually to biology rather than physics or
chemistry. The allocation of resources, has been shown to have a bias
in favour of boys. One example is buildings: "Regulations issued by
the late Ministry of Education . . . . prescribed standards for boys',
girls' and mixed schools respectively, which gave a standard for girls'
schools of fewer science laboratories and technical rooms than those
for boys." (Byrne 1973) These schools remain in use, unaltered and
unimproved. Furthermore, career guidance tends to steer girls into
the traditional areas of employment for women and some career
guidance literature and forms clearly state the few occupations
thought suitable for girls, in a separate list.

Books are a major aspect of the secondary school curriculum and an
increasing number of analyses of their content are becoming available.
General readers, textbooks and books on particular topics, e.g. sex
education, are three examples that have been surveyed. As regards
general readers, the choice appears to be limited (Nightingale 1974)
so that girls wanting to read adventure stories end up reading Biggles
like the boys, with the implicit message that it is men who have
adventures. Books specifically for girls "show a preponderance of
books about love, dating and romance with a sideline in problems,
like spots, glasses and so on, which interfere with the romance . . . .
Boys are interested in dating too, but they are not expected to read
books about it. It is a minor part of their lives. Girls are not allowed

the comforting assumption that sex and dating need play only a part in their lives. They read that it is of crucial importance and learn to think about very little else." Even the role of tomboy spells out the same message in the end. Tomboys are allowed to take the lead, to be tough and to make decisions. Nancy in Arthur Ransome's Swallows and Amazons is fierce in her defence of a girl's right to do what boys do, but Peggy and Susan spend their time being conventional girls, cooking and organising the domestic scene so that Nancy can have her eccentricities. John and Roger have traditional male roles. Thus the tomboy is presented as a kind of release for girls who are unsure of their role. Nightingale concludes that the tomboy's world is presented as ultimately unsatisfactory with the message that perhaps it is better to be a 'real' girl after all.

Subject textbooks have received some attention. (Hahn 1974, Millstein 1972) The conclusion reached has been that women are hardly present in the curriculum presented in textbooks. They are largely absent in history and science and appear in a distorted form in literature. History was indeed His-story and not Her-story, concluded Millstein (1972).

Hoffman (1972) surveyed the sex education books written for school children and concluded that they presented an inaccurate and distorted version of the sexual behaviours and emotional responses of girls. She found that four out of five sex instruction books for adolescents state the author's belief in a wide emotional and sometimes intellectual gap between the sexes. No evidence for these assertions was quoted by the writers of these books.

6. SOME ASPECTS OF THE HIDDEN CURRICULUM

The Hidden Curriculum is a term used to refer to those aspects of learning in schools that are unofficial, or unintentional, or undeclared consequences of the way in which teachers organise and execute teaching and learning. Jackson (1971) describes the unofficial three R's that must be learnt to survive comfortably in schools – Rules, Routine, and Regulations. Other aspects include the influence of the expectations of teachers (Rosenthal 1968), the effects of different usages of language (Barnes et al 1969) and the knowledge structures implied by teaching techniques (Holt 1964).

The expectations of teachers have been shown to affect the pupils' perceptions of themselves. (Rosenthal 1968). So practices like lining

up boys separately to girls, physically punishing boys but verbally chastising girls, and commenting on girls' appearance but boys' achievement have been shown in a study by Ricks and Pile (1973) to be common in secondary schools. A further example is that of tolerating different standards of behaviour for boys than girls, e.g. discouraging girls from fighting but not boys, or expecting boys to be chivalrous by standing if there are not enough places. Teachers may therefore cumulatively pass on expectations of differential behaviour, or at the very least, accentuate such differences as exist, based on selective generalisations. (Examples of selective generalisations in reverse might be: men cannot be hired for this job because they may have a heart attack and die, men having a higher incidence of heart disease than women; or, men cannot be considered for executive positions because they become violent too easily – since men have the male hormone testosterone often considered to be a major source of aggression).

The use of language is a related issue. Language is the main vehicle of learning and is of social rather than individual origin, being external to us, and created by ancestors whose errors and distortions are embedded in the language. Yet it constrains our thinking and is the means of personal thought. The sex labelling in everday language largely passes without notice. Yet we talk of old wives' tales, not old husbands' tales, man when we mean human and mankind when we mean people. 'Miss' as a title marks off an unmarried woman from 'Mrs' – hence the growing habit of women of using the 'Ms' label as a parallel to 'Mr'. Newspapers label a Woman's Page but not a Men's Page. Studies of the use of language have shown sex labelling features to be prominent. (Eaton and Jacobs 1973).

7. A CASE STUDY OF TWO SCHOOLS

In 1973 an exploratory study was made of the fifth form girls in two urban comprehensives, in an attempt to gain an overview of the interlocking factors in school life which could affect girls' self-concepts. (Davies 1973) The investigation comprised research into school organization, pupils' curriculum choices, and careers guidance, together with a comparison of girls' and teachers' attitudes towards school and its function. Space only permits a limited selection of the findings.

(a) Staffing and administration

In both schools there were almost twice as many men as women teachers, with the proportions dramatically increased for subjects like Maths and Science. School A had 9 male Maths teachers to one female Maths teacher, and School B had only male Maths teachers. Science teaching showed a male/female ratio of on average 4:1, with women teaching mainly Biology. Apart from Housecraft and Needlecraft, the only subject taught more by women was Modern Languages.

Both schools had male headteachers. School A had a deputy headmaster and a deputy headmistress. In practice their functions were sex-typed: the deputy headmaster dealt with areas of learning and achievement, the deputy headmistress with helping and welfare. In School B there were two deputy headmasters and a Senior Mistress. Assurance was given that all three really had the same status, but no explanation was given, or importance attached to their different titles.

In both schools all the Heads of House or Heads of School were males; all the Assistant Heads were female. Male teachers also had the monopoly on Heads of Department; those departments that were administered by women were Domestic Science, Commerce, and of P.E. (Girls). Whatever the reasons for this pattern of staffing, one can but speculate on the effect on girls in school of the continual experience and acceptance of man in authority while women are 'assistants'; and of Maths and Science being apparently a male stronghold.

(b) Curriculum choices and options

All subjects were in theory open to both sexes *after the third year*. The lateness of this offer is important in that it may be psychologically difficult to switch from needlework to woodwork (or vice versa) after three years absence from a subject; it was found that girls 'chose' domestic science, and needlework while the boys 'chose' metalwork and woodwork. A discrepancy arose between the official statements about absolute freedom to choose and what the girls (and sometimes the teachers) thought to be the case. The boys predominantly chose Physics and Chemistry after the third year, while the girls chose Biology and Rural Science, even though they had had the same science course hitherto. Many girls abandoned Science altogether in favour of English Literature or Languages.

(c) Girls' concepts of self and school

A questionnaire administered to the fifth form girls pointed up three main areas of interest. The first was that the girls' choices of subjects at school were rarely made with any future career pattern in mind; if they were, it was in order to go into the traditional fields of commerce or perhaps nursing.

The second area for concern was the related one of aspirations and ambitions. In spite of being educated with boys, and on paper seeing themselves as intellectual equals, the girls saw their own future in the traditionally female employment fields. The highest echelons of ambition were generally 'air hostess' or 'private secretary in a top firm'. They seemed resigned to 'ending up' in the service industries. While most girls expected to return to work soon after having children, few of them had given thought to a job with a definite career path that would occupy the remaining 20 years of their working life: their vision of the future came to a halt at the wedding.

The girls' perception of life in school is a third sphere of attention. Girls almost unanimously perceived the boys as no cleverer than themselves, but were unsure whether they were better leaders. Girls showed no particular preference for either male or female teachers, but made many comments about the differential treatment they themselves received from staff. Apparently teachers were 'stricter' or 'harsher' with boys, while girls were accorded more respect. However, more often there were complaints of boys receiving more attention and friendliness, while girls were treated as 'helpless' or 'stupid'. Women teachers were perceived of as 'showing off' in front of the boys, while they were always 'shouting', 'groaning' or 'being bitchy' to the girls. Feelings of inappropriate treatment may be a contributory factor to the greater number of girls leaving school as soon as possible.

(d) Teachers' perceptions of girls

The teachers almost with one accord wanted to encourage absolute parity between boys and girls in timetabling, in curriculum and career opportunities, and even games. Surprisingly, however, they were then willing to make quite sweeping generalisations about differences between boys and girls both in terms of ability and behaviour. The vocabulary used was indicative, and concords with Dale's research (1969). Fields where the girls were perceived to excel nearly all related to their greater devotion to work; they were more conscien-

tious, precise, organized and better at written work. Boys on the other hand, were seen as more logical, more enthusiastic, quicker to graps new concepts and better on the oral side. Girls' complaints about receiving less attention in class could well be justified if teachers do reveal their appreciation of the boys' dynamic personality characteristics. Moreover, in response to a forced choice question, 72% of teachers (both male and female) said they would prefer to teach boys, giving a variety of reasons including ease of relationships, career prospects and the attributes mentioned above.

Perceptions of behavioural differences showed that girls were regarded as more mature, more interested in the opposite sex, more conformist and obedient. Boys were seen as restless, independent, noisy and careless. Further investigation revealed a pervading suspicion about the girls' submissive and mature exterior. Boys' discipline problems were perceived of as the 'boys will be boys' variety, with Enid Blyton terminology abounding – 'prank-playing', 'mischievous', 'naughty', but always 'owning up'. Girls, however, were 'devious', 'insidious', 'insolent', and 'resentful'. Since there is a wealth of difference to a teacher between a pupil who is mischievous and one who is insolent, an interactionist viewpoint might ask which came first, teacher preference for boys, or the girls' display of resentment?

Teachers laid emphasis on the expressive functions of the school – moral training, teaching independence, help with appearance; the girls, however, were much more concerned about the instrumental role of the school: examination achievement, helping to get good jobs. Even more discrepancy arose between teachers' concepts of what was important to girls, and the girls stated views: the girls were not nearly so concerned with the immediate youth values – pop music, boy friends – as the teachers supposed. The question is whether this imperfect insight into what is important to girls means that other interpretations of girls' personality characteristics are also inaccurate, affecting their entire attitude to and relationship with them in school.

(e) Careers guidance

Careers teachers in both schools saw their roles as passive, presenting opportunities to the pupils without pressurizing or even necessarily suggesting definite career lines for them. Careers guidance was timetabled regularly, and there was a variety of literature available,

but often girls and boys had separate films and speakers according to the traditional sex role of the career discussed. The careers teachers seemed resigned to the girls' curriculum choices and their low aspirational levels, attributing it to home influence, the peer group, tradition, and the local job market. Girls in school were perceived as conformist and obedient; yet careers guidance was the one field where they were not told what to do, where the influence of other agencies was allowed to control the situation. There seems a case for direct or even compensatory intervention by careers teams in persuading employers to accept girls at all ranges and levels of apprenticeships or structured career opportunities, and in convincing girls that they should both broaden and raise their sights when thinking of their future.

8. CONCLUSION

One would be hesitant to propose definite conclusions derived from this study of girls' socialisation in schools. Although many possible areas of influence have emerged, it is difficult to identify any single one as a specific contributory factor in sex-role typing.

What can be stated with some confidence is that girls learn their sex roles from a very early age; that these roles favour a particular personality type and reaction to the environment and to the opposite sex; and that these traits and reactions can be dysfunctional in terms of achievement, aspiration, and career opportunities. The secondary school is the testing time when previously learned roles are either reinforced or counterbalanced, and when qualifications are gained (or not gained) and career paths crystallised. Every area of school life, administrative, curricular, instructional or social, will have effects, but different effects, on how an individual pupil sees herself as a personality and as a member of the female sex. All aspects of school life need to be examined, in conjunction with other educative agencies, before one could say with certainty that a school was an active or passive agent in socialization. At this stage one can only summarize relevant findings and submit that, given the protracted and constant socialization process of girls outside the school, any process within the school that does not actively counteract this pressure may well, in effect, support it.

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INEQUALITY IN EDUCATION —
DISCRIMINAL RESOURCE — ALLOCATION
IN SCHOOLS?

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ABSTRACT

The implicit acceptance of unquestioned social and educational assumptions about the future roles of girls leads to different educational routes, and less sophisticated equipment and courses. The allocation of resources in education shows that proportionately more, better, and different types were generally held to be automatically necessary for respectively, able and less able pupils; urban and rural pupils; older and younger pupils; and boys and girls. Thus a less able girl in a rural school has a triple chance of resource deprivation. The declining number of women in senior posts, makes future change still doubtful.

I.INTRODUCTION

CONCEPTS of inequality and discrimination can be clouded by a confusion of thought which eschews *difference* as incompatible with equality. The original definition of "to discriminate" is "to make or constitute a difference in or between". Positive discrimination for especial needs of the physically, mentally or socially handicapped for example, is now an educationally accepted priority aimed at diminishing innate or conditioned inequalities.

But are we right to accept as an unexamined assumption from the past, a philosophy of education which presupposes differential curricula by sex, not on grounds of different ability or handicap but on either hormonic or social grounds? There appear to be two mutually exclusive premises which underly the philosophy of, and therefore the allocation of resources by those in the government of education – Chief Education Officers, head teachers, advisers, etc.

It may be held either that

(i) There is no ground for identifiably different curricula, courses or educational goals on grounds of sex; educational practice should be solely related to innate ability, specific talents, temperament and mental, emotional and social needs of individual children.

or that

(ii) Boys and girls are innately different and have to live in a society which expects different adult roles from men and women. They will play different roles in life according to sex regardless of ability, ambition, purpose and social background. Curricula and courses should therefore reflect sex differences because boys and girls will continue to "want" or to "be interested in" what their parents or older peers happened to be offered by schools or by employers.

An uneasy compromise is held by those conscious of rapidly changing social opinion but nervous of rejecting the security of known values and traditions – and twenty years practice in traditional timetabling. They hold that *most* boys will still want to be engineers and managers and *most* girls, teachers and housewives (or fitters and typists respectively); but that a fairly flexible timetable should enable the occasional non-conforming (offbeat, determined, articulate, intelligent) boy to opt for child care, biology and French; and girl for technical drawing, motor maintenance and economics. These are schools with the single minority boy or girl bravely facing teasing from peer groups; but this still represents some progress. This subtle reinforcement of traditional patterns under guise of progressive practice, however, does little to re-examine the fundamental concept of abolishing education by typecasting, and is a direct descendant of educationalists like John Newsom on girls' education (Newsom, 1948) and William Alexander. The latter said in 1945 in the wake of the new Act, on technical education for girls,

"This will probably be most effectively done in most areas by making technical schools mixed with a main course for girls, centred either on commercial education or in technical education based on domestic science, but ensuring that individual girls who desire to pursue courses in engineering . . . . will have the opportunity to do so".

The aircraft and engineering and munitions industries had, of course, for the preceding 5 years (1939–45) and from 1914–18, been largely staffed by female labour. One wonders therefore at so rapid a return to the principle of "exceptions to the rule". Clearly postwar secondary education was expected promptly to revert to the stereotypes successfully rejected in both war periods. Why?

The Education Act 1944 laid down the duty to provide education by age, ability and aptitude. Have we provided this successfully for girls since 1945? Where have the resources actually gone; and where indeed have the girls and women gone? Only latterly in the debate has the critical function of the primary and secondary school been recognised as the lynch-pin on which equal pay, promotion, civic and fiscal status and career prospects rests. For whatever the liberal – academic may say, and no educationalist will cede the stronghold of personal individual fulfilment as a prime educational aim, the days when we can eschew additionally public examination results, and standards of scientific, technical and basic education as an equal educational goal are long passed. 86% of boys and 88% of girls rated as the major school objective "to get as good jobs or careers as possible" and the same proportion of parents agreed (Schools Council, Enquiry 1, Young School Leavers 1968). Employers and further and higher education require – whether we consider rightly or wrongly – measurable GCE results or technical diplomas; and promotion in adult employment goes to those with (a) measurably good basic education and (b) measurably competent further education and training. To meet the individual needs of girls (one in five of whom now ends up as the bread winner) as well as the manpower (womanpower) needs of the country, we need to narrow the differential of underachievement by girls and women in educational terms. What underachievement?

2. THE NATIONAL AND REGIONAL PICTURE — CURRENT RESEARCH

The writer has just completed a four year research project on the rationale of resource – allocation in secondary education over the period 1945–65 both nationally and in three typical local education authorities (Byrne, 1974). A second research-based book on women and education, has been commissioned by a leading publisher and is in preparation. The main purpose of the first research was not in fact to examine concepts of discrimination but to establish what coherent

rationale of resource – allocation (if any) has operated in postwar years. The project sought to establish whether an identifiable relationship between the allocation of resources and *explicit and implicit demand* could be traced. The hypotheses that constant lack of resources depresses demand and conversely dynamic demand releases resources, were examined, both nationally and locally. Part of the research project included a 31.5% sample survey of secondary schools in the three l.e.a. areas.

This research highlighted however, incidentally, both discriminal patterns of resource allocation, and underachievement by girls (and by rural less able pupils) and some findings are germane to the main debate on sex role stereotyping.

3. DIFFERENTIAL ACHIEVEMENT

The aim of those governing secondary resources after the war was to achieve "Secondary Education for all" in the words of both the 1947 and 1958 White Papers. How did the girls fare ?

By 1960, there were still 13.2% more entries from boys at "O" level than girls; and 54% more boys' entries at "A" level. By 1970, with RSLA pending, the "O" level differential had dropped to 1.8% but still 32% more boys than girls took Advanced level courses. This hides sharp regional differentials moreover:

1970		National	Midlands	North
5 x O/A subjects	B.	21.8	16.6	19.6
	G.	20.2	16.3	16.3
2 x A subjects	B.	12.3	9.8	9.1
	G.	8.1	7.0	6.7

Not surprisingly, since Advanced level is a prerequisite for higher education, twice as many boys as girls went to university (and still do); 7.6% of boy leavers and 4.4% of girls. On the face of it more girls enter further (not higher) education – 12.5% as against 8.1% boys. But the East Midlands Regional Advisory Council has recently surveyed 48 colleges to look at the breakdown of these figures. As predicted, in fact within those averages, ten times as many boys/men as girls/women are on *advanced* (degree or diploma) courses, while most of the women are on *low level* secretarial courses, basic skills or evening classes in flower arranging. Four times as many boys as girls are on day release. Remove the girl clerical and typing students

and the differential becomes between 10 : 1 and 100 : 1 depending on the industry. And the Government produced Planning Paper 2 in 1970 on "Higher Education in England and Wales" which deliberately *planned* for differential takeup of further and higher education by 1981 thus expecting not to alter the trend. The figures are for school leavers.

Thousands (Students)

	M.	W.
Advanced		11.6
further education	22.7	32.9
University	58.6	19.2
College of Education	7.1	

Nor are women present in the government of education. Only 53 out of 994 heads of mixed secondary schools were women in 1972. Women are even more poorly represented in colleges of further education (source Table 32, Vol. 4. 1970 Statistics of Education).

1970	All Colleges		Polytechnics		Regional Colleges	
	M.	W.	M	W.	M.	W.
Principals	666	35	24	—	14	—
Vice Principals	336	25	27	—	10	—
Heads of Depts.	2010	203	219	6	105	5
Readers	18	—	5	—	9	—
Total	3030	263	275	6	138	5

And only two local education authorities now have a woman C.E.O. The picture on role classification of O. and A. level subjects is now well known and can be studied in the annual statistics of education. It is still the case that girls tend to read languages, history, biology and social science subjects and boys, maths, chemistry, physics, economics. Two-thirds of the colleges replying to the East Midlands R.A.C. questionnaire attributed low takeup by girls of technical college courses to "inadequate maths and science teaching at school" – subjects which are still a prerequisite not only for nearly two-thirds of F.E. courses still, but for many of the new and expanding industries.

It is suggested that the origins lie in the differential patterns of boys' and girls' secondary education whether in single sex or mixed schools. It was, in the survey areas, less a case of negative conscious

discriminal allocation than implicit acceptance of inherited unex-
amined social and educational assumptions that girls were destined
for different mainly subsidiary, marriage based roles in society and
needed therefore different routes and less sophisticated equipment
and education for a terminal occupation of wife and mother.

Labelling of adult employment as "men's work" and "women's
work" moreover, is translated back into school terms by differential
curricula, parallel differences in illustrative educational media and
separate boys' and girls' courses masquerading as "relevant" in the
post – Newsom euphoria. Relevant for what?

4. THE SURVEY AREAS

When, in fact, the actual allocation of accommodation, capital and
revenue resources, capitation, teachers, time on timetables for key
subjects, was examined (both for quantity and standard), propor-
tionately more, better and different resources were generally held to
be *automatically* necessary for respectively, able and less able pupils;
urban and rural pupils; older and younger pupils; and boys and girls.
All of these discriminal assumptions are in the writer's view,
questionable as blanket generalizations but it is the sex differential
which is of current concern. It will be seen that a less able girl in a
rural school had a triple chance of deprivation, and the school leaver
destinations confirm this. From 66% to 82% of rural secondary
modern girls went into unskilled dead-end employment compared
with 34% of rural boys and 27% of urban girls, in 1968. Even
grammar school girls underachieved however; the following example
is typical of mixed grammar schools in all three survey areas so
casting doubt on the wisdom of automatic reorganization of single
sex schools as mixed schools yet.

	Boys	% of total	Girls	% of total
Arts	48	21.1	58	25.5
Sciences	94	41.2	17	7.4
Mixed	6	2.6	5	2.2
Totals	148	64.9	80	35.1

5 form entry mixed grammar school
(suburban Council housing area.)
Total VIth over 5 years

Three times as many boys as girls went to University and nearly three times as many to further education, from this Northern school.

5. RESOURCE—ALLOCATION

Resources may be material (buildings, specialist rooms, books and equipment) financial (revenue and capitation) and staffing (teachers). To these could be added time on a timetable for key subjects.

Because of restrictive practices by the Ministry (now Department) of Education in post war years the l.e.a.s were neither able to design schools as they chose or to provide roofs over heads for all pupils. Throughout the survey period and in 1968, most schools were overcrowded by from 10% to 20%. Since 840 children into 560 places won't go (nor 760 children into 2 science laboratories) specialist accommodation had effectively to be "rationed" according to some simple principle which a headteacher could apply year by year. Either subjects had less periods a week or some pupils could not learn them at all in the absence of adequate rooms and equipment.

Of 133 schools, 88 were mixed, 20 for boys and 25 for girls. 42 were visited, the remainder checked by accommodation records.

Almost all girls' schools were deficient in *science* laboratories for the number on roll. Over half of mixed schools (all secondary modern) had too few laboratories for their numbers. All but four, timetabled boys into science laboratories for chemistry and physics, teaching biology to girls in converted classrooms, simplistic labs with missing services or not at all. The dual grounds were generally "physics has to have a lab, biology one can manage with formica topped tables" and/or boys have an allegedly greater vocational need to transfer to the grammer school VIth or the Technical College "because it's Joe and not Jeannie who has a living to earn". This was especially acute in the North where memories of unemployment linger – and where it is still a live factor.

Moreover, many schools have been designed or adapted with more and better teaching spaces for crafts appealing to boys (which tend to be employment-related) than for those appealing mainly to girls. One 5 form entry secondary modern school was *designed* with 2 woodwork and 2 metalwork rooms, only 1 housecraft room and no purpose designed needlework room. In providing specialist accommodation for extended (semivocational) courses, boys' technically

oriented courses tended to be based on available laboratories and workshops for which they were given priority. But of 17 schools offering "commerce" all but three taught in standard classrooms with no office practice demonstration areas. More than half of girls' and mixed schools were obliged to teach needlework in standard classrooms. Equipping specialist subjects and allocating money for capitation gave rise to uneven patterns. Despite genuine belief by teachers in equality of opportunity, one l.e.a. awarded consistently higher capitation and financial allocations per capita to its boys' schools than to girls' schools. For example:-

	Girls' Modern		Boys' Modern	
	Expenditure	Roll	Expenditure	Roll
1951–52	£10,700	322	£13,845	311
1964–65	£31,785Ø	422	£32,660Ø	372
	Ø£75.3 per head		Ø£87.8 per head	

Schools deficient in furniture, equipment and apparatus for languages, creative arts, commerce and homecraft, frequently had large grants for Nuffield physics and chemistry (rarely Biology), Project Technology, motor maintenance "Newsom-courses", electronics. The option system in timetabling cross set these latter with those subjects which girls were encouraged to take however. Unintentionally the major additional innovatory allowances therefore tended to benefit more boys than girls. But since revenue expenditure rose overall at a lower rate than inflation, continued special project grants (often over £1,000) for a few pupils were at the expense of increases in *basic* capitation for all pupils.

And of course, girls' schools have since 1903 been designed without handicraft and boys' schools without housecraft. In Sweden, since 1968 however, all pupils up to grade 6, study all crafts from metalwork to mothercare (fathercare). The U.N.O. report comments that:

"The instruction of girls in woodwork and metalwork is of great importance since it may result in girls opting for technical and mechanical training in the future".

The report justifies the provision of childcare courses for *boys* as well as girls because:

"The analyses hitherto available show that no rapid advancement of women in employment and the professions, politics,

trades union activity, etc. is possible as long as men fail to assume that share of the work of the home which falls to them as husbands and fathers".

(Swedish Government, 1968 to United Nations).

6. SCHOOL ORGANISATION

The allocation of material resources reflected similar patterns of school organisation with a sharp reintroduction of role casting at 13-plus when bias work and options were thought necessary. Tacit assumptions underlay courses alleged to be "interest-based". Some of these follow. Boys are capable of more demanding work than girls (but girls' *pass-rate* as distinct from takeup of GCE, is higher in fact). All boys have to earn their living; girls don't. (One women in five is now obliged to be the breadwinner. Two-thirds of all employed women are married). Maths, science and technical subjects are essential for most boys as key openers to industry and further education; girls need linguistic, personal and social education for their adult role. (In Russia, nearly a third of all engineers are women). Adult employment is divided into men's work and women's work and if school courses are not sex-based, school leavers won't get jobs. (Which was why a College of Technology split its O.N.C. Business Studies Course – boys to Maths, Statistics and Computing; girls to Typing). In a sample of mixed schools, both grammar and modern, *both pupils and staff* accepted the following career assumptions, for example, and based 13-plus subject options by sex accordingly:

Boys become:		*Girls become:*
Doctors		Nurses
Managers		Shop assistants
Administrative		Clerical officers
Executive	} officers	
Sales manager		Typist
Accountant		Comptometer operator
Computer engineer or salesmen		Computer programmer

While boys' courses tended to include key "tool" subjects with a wide educational base, girls' courses tended to spend up to 10 hours weekly on repetitive skills with low or temporary educational value not useful for further education or training.

7. SCHOOLS CONFORMING TO STEREOTYPE

A rural secondary modern taught general science to I to III years, then split boys to C.S.E. physics, girls to C.S.E. biology. The catchment area contained neither engineering firms nor hospitals and the leavers expected local jobs. Where was the general educational base? A second rural school expected all girls to spend 4 periods typing at the expense of science. A market town school commented: "Almost all local firms insist on male labour, a problem for girl leavers" but reinforced this by giving technical drawing and rural science to *all* I to III year pupils and then channelling girls to commerce instead of open option CSE/GCE. A small technical school spoke of "a strong local tradition against professional training and higher education for girls". Ten mixed schools split boys and girls almost completely from 13-plus because "it's easier timetabling once we've split for PE and crafts". (What happens if one *doesn't* split for PE and crafts?) A mixed grammar school organised VIth form commerce – economics, principles of accounting and business practice for boys; advanced typing for girls ("We try and meet demand from the pupils and that's what they say they want"). All linked-courses with local colleges were role–classified (boys to engineering or computer departments, girls to commerce or catering or welfare studies). The "interest-based" courses of one northern urban mixed modern school exported 88% of girls leavers to unskilled or temporary jobs, 2% of girls to further education; but 66% of boy leavers to skilled apprenticeships and 12% of boys to further education.

8. SCHOOLS NOT CONFORMING TO STEREOTYPE

Four larger mixed schools (all as it happens with young headmasters and new deputy headmistresses) deliberately mixed all subjects (including P.E.) and diverted money, staff and time to persuading girls (a) to try "new" subjects and (b) to invest in their future by staying on to take external examinations in key subjects. A mixed bilateral school – "we are immeasurably better now the single sex schools have merged. The girls and women staff are civilising us!". Girls here did metalwork, electronics and catering, rather than cookery; boys homecraft and social studies. Science groups were evenly mixed – by *ability*. Abler pupils of both sexes chose physics; the less able biology.

A five form entry mixed grammar school (mining area) aimed to increase career expectation for girls. Its science VIth contained 22 boys and 17 girls (physics) and 14 girl mathematicians. "We think of them as people, not boys or girls". Two large city secondary modern schools deliberately sent intelligent girls to male-dominated industries on its career-sampling course at 14-plus. Proportionately more girl leavers from this school went on to *career-based* or technical further education than from neighbouring schools.

An analysis of school leaver patterns related to school organisation and allocation of school resources for key subject areas (cf. Planning and Educational Inequality, Chapter XI) suggests a cycle of deprivation. Consistently more girl leavers leave with inadequate external examinations or enter clerical (low/level) or unskilled employment from schools conforming to role-classified curricula. Sub-regional differentials show greater deprivation for rural girls – who are unlikely to stay in their home area however given marriage and employment mobility. Conversely schools with open timetables, genuinely mixed groups and positive as distinct from negative discrimination, reversed this trend.

9. A CONTINUING CYCLE OF DEPRIVATION

The downward "critical path" of achievement is too little understood; that is the relationship between adult opportunity, the external examinations or skills needing to be acquired at 18-plus and 16-plus, and the conditioning of pupils at 13 or younger towards different types and levels of educational courses by sex stereotypes (or social class groups) rather than by individual potential.

Children and young people identify with the adults in their world. An important discovery of the National Child Development Study (Davie, Butler & Goldstein 1972) however was that while more boys than girls showed anxiety for acceptance by their peer groups, many more girls than boys showed anxiety for *adult* acceptance. And proportionately far more girls than boys from the manual social classes III (b), IV and V showed this anxiety. Thus girls are far more likely than boys to conform to an adult-set stereotype of expected behaviour, pattern, educational aim or social behaviour. This correlates with the N.C.D.S. finding that over twice as many boys as girls "wrote-off adults". Moreover, the N.C.D.S. confirmed some sharp regional differences in both sex and social class differentials, which

reinforces the empirical experience of teachers, education officers and careers officers that the East Midlands and North East for example tend significantly to underachieve compared with the South East and West Midlands in some important respects (public examinations and recruitment to further and higher education).

But key staff seen by pupils as important in schools, still tend to be men. Threequarters of all secondary headteachers are men. The most senior (Scale 5 and Senior Teacher) posts are more frequently awarded to subjects taken by men teachers (reflecting the A level patterns of 10–20 years past) viz. science, maths, technology. Most Heads of Faculty are men. Women heads of departments are predominantly linguists, historians or social scientists, musicians or homecraft which rarely rank more than scale 3 or scale 4 in the curricular hierarchy. Deputy headmasters and senior masters tend to be given timetabling, discipline and administrative work (useful for future headships). Most Deputy headmistresses and Senior mistresses in mixed schools deal with "girls' problems", first-aid, pastoral and social organisation and entertaining visitors. Nine visitors out of ten to schools from the education service (C.E.O. or Deputy, A.E.O., adviser) will be male.

10. THE FUTURE

The growing concern to analyse the philosophy and reasoning behind school organisation, resource-allocation and pupil-achievement is encouraging. A general move to take "skills-based" repetitive work out of schools and put it back in colleges and firms as training rather than education will clearly benefit more girls than boys. The simple abolition from schools of shorthand and typing alone will free quite massive blocks of curricular time for thousands of girls who may less readily move onto a conveyor belt to the nearest typing pool, and aim at administrative office work or personnel management instead. Clearly inservice training programmes for teachers could usefully include seminars on education by ability, age and aptitude and not by sex. Equally clearly, the antidiscrimination legislation nearly on the statute book has messages for the education service and may create a climate of self-examination for l.e.a.s., heads and careers teachers which will break down the perpetuation of a hidden curriculum of differentiation which must act not only against the personal fulfilment of girls, but against the economic and civic needs

of the country. For 51 % of the school population is hardly a minority interest; 51 % of the adult population is an important factor in future government.

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MEN AND WOMEN IN HIGHER EDUCATION

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ABSTRACT

The discrimination against women in higher education is both complex and cumulative. Amongst aspects described here are admissions policies of universities, acceptance for higher degrees, the absence of women from prestigious posts, rates of pay, records of promotion, and research awards. Such discrimination is unacceptable in institutions which are, supposedly, communities of scholars and teachers, and financed almost entirely from public funds.

I. INTRODUCTION

DISCRIMINATION on grounds of sex – that is, for all practical purposes, discrimination against women – in higher education has been well documented in the United States. Apart from the two volumes produced by the Carnegie Commission, (1973, Feldman 1974) there have been studies dating back at least to 1964 of women in academic life. They are too numerous to list here. Furthermore, many academic professional groups such as The American Anthropological Association, The American Sociological Association, The American Historical Association, The American Political Science Association, The American Psychological Association, The American Academy of Sciences, The American Mathematical Association, have conducted surveys into the status and treatment of women in their professions and the results of many of these surveys have been published.

There are also reports of Congressional hearings (1970 and 1971), reports on Affirmative Actions Programs and the progress or lack of progress under them. Every university holding Federal contracts worth more than $10,000 is required to draw up an Affirmative Action Program showing what steps it is taking to ensure that women and members of minority groups are getting posts, pay and promotion in accordance with their abilities and in better proportion to their representation in the population at large.

Very interesting reports of research have been published showing that Chairmen of Departments and others responsible for making academic appointments value the qualifications, experience and achievements of a woman less than the *identical* qualifications, experience and achievements when they are those of a man. (Fiddell, 1970, Lewin and Duchan 1971, Simpson 1969).

2. RESEARCH IN BRITAIN

No comparable volume of research has been carried out in this country. I attempt to discuss only two sectors of higher education: universities and colleges of education, and some general factors.

(a) *Students in Universities*

On access to courses in higher education, there is evidence to the Robbins Committee (1961-63) and the House of Lords Select Committee on the Anti-Discrimination Bill (1971-73) and a paper by Diana Barker (1973). Universities discriminate against women in admission to medical schools, veterinary colleges and anthropology schools either by operating a *numerus clausus* or by requiring higher "A" level grades. The statement of the Committee of Vice-Chancellors and Principals of 22nd February 1974 recommended all universities to end such restrictions, but, even supposing the advice is wholeheartedly complied with, another three years must elapse before all women undergraduates benefit from this change.

The proportion of women at British Universities has increased from 24% in 1959-60 to 29.7% in 1971-72. Women comprised 32.6% of the entry to undergraduate courses in 1971-72, but fewer than 23% of the postgraduate students with no improvement over the last three years. Of these students, 53% of the men, but only 33% of the women were doing research for a higher degree.

It seems that women may be slightly more likely to get their degree in the minimum time and, as is well-known, are substantially over-represented among those obtaining second class Honours. Of the higher degrees earned in 1970/71, 10% of the doctorates and 13% of all higher degrees were earned by women. Preliminary research by the author shows that at one Institute of Education, significantly more men than women doing higher degrees do not have to pay their fees themselves; fees are remitted for those at Colleges of Education within the Institute and, as will be shown, both

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the number and proportion of men employed in Colleges of Education has risen sharply over the last two decades. The men are doubly advantaged therefore: their more prestigous job gives them access to additional perks which facilitate their earning additional qualifications which in turn will facilitate further advancement.

(b) Colleges of Education

In Colleges of Education there are more than $2\frac{1}{2}$ times as many women students as men. There appears to be no significant difference between the entry qualifications of the two sexes. In fact, more than $2\frac{1}{2}$ times as many women as men have the minimum qualifications for university entrance. The examination results tell a less equal story: men are *proportionately* twice as likely to fail as women; this applies equally to students in University departments and in Colleges of Education (*Statistics of Education*, Teachers).

The pattern of employment in Colleges of Education makes depressing study for women. Whereas in 1950, there were $1\frac{1}{2}$ times as many women as men teaching in Colleges of Education, by 1970, there were twice as many men as women. The proportion of teachers of each sex who are graduates has not changed as between the sexes (slightly fewer graduates in each case). The proportion of women in teaching including Colleges of Education and Further Education has dropped from 61% in 1960 to 52% in 1970 (*Statistics of Education*, 1971, Table 13). The more equal sex balance in the profession as a whole is to be welcomed, but not the overwhelming predominance of the other sex in the more prestigious posts which must now seem to be more inaccessible to the vast majority of entrants.

Furthermore, women are under-represented in the grades of Principal Lecturer and Senior Lecturer. They are also proportionately older than the men in all the middle and senior grades. Nor does it seem likely from a brief examination of the statistics that the withdrawal of married women from employment will account for the discrepancies.

3. UNIVERSITY TEACHERS

The number of university teachers has increased very substantially over the last decade, but the proportion of women has not. Worse still, the proportion of women in the higher ranks has actually

diminished. Whereas in 1961, they comprised 2% of Professors and 9% of Readers and Senior Lecturers, in 1971 they comprised only 1.6% of Professors and 6.6% of Readers and Senior Lecturers. (Robbins Report, private communication).

(a) Pay and Promotion

In her survey of university teachers in 1969, Tessa Blackstone (1973) found that women academics were paid substantially less than men. She suggested that the differential might be the result of men being appointed earlier in their careers, being appointed at a higher point on the scale or receiving additional increments. She quotes Rudd and Hatch (1968) who found that women postgraduates received on average salaries 25% lower than those of men. As the starting salary in a new job is usually fixed by reference to the salary last received, women academics are initiated into a spiral of cumulative discrimination. This spiral is given an additional and particularly vicious twist in that an application for promotion is unconvincing when coming from someone low down on the salary scale.

Blackstone had suggested that the salary differential might be attributable to lower qualifications and a lower rate of publication. In a further analysis of the survey data, Blackstone and Fulton (1974) found that women academics with qualifications and a rate of publication as good as that of the men did not have as good a rate of promotion and that their salary was some 20% to 25% lower. Indeed, women in their fifties with a high rate of publication were likely to be earning less than men in their 40's with a medium rate of publication and men of the same age as themselves with a low rate of publication.

These general results (which the authors state are *prima facie*) can be illustrated from the records of some individual institutions. For example, in one College of London University, the proportion of women academics has diminished during the last decade from around $\frac{1}{3}$ to about $\frac{1}{4}$ and from more than $\frac{1}{3}$ to just under $\frac{1}{4}$ in another. Furthermore, the number and proportion of women holding Chairs or Readerships (Appointed Teachers of the University and so "superior" to Senior Lecturers) had dropped significantly in both Colleges – from around 21% to none (the proportion fell from 33% to 16% in two years) and from 28% to 9%. It is exceptional for there to be *no* women with the rank of Reader or Professor or above, but this is so

in the first of the two Colleges, which specializes in what is commonly thought of as a predominantly women's subject and certainly does not and has not lacked women of high ability and energy.

In the light of these observations, it is interesting to look again at the distribution of women among the grades of university teachers in 1961 and 1971. The decrease in the number of women in senior ranks has been compensated for, not by an increase in the proportion of lecturers, which has remained constant, but by an increase in the grades of research officers, research assistants and so on from 18.6% to 26.8%. Members of these grades seldom have tenure. It seems clear that women have not shared in the university expansion of the middle 1960's. In the United States also, women did not share in the expansion which came a few years earlier in that country.

(b) *Part-time and temporary work*

A small survey of those holding part-time or temporary jobs in universities and polytechnics was conducted recently (Caplan, 1974). The consistency of the responses suggests that the complaints voiced by all respondents (including one man) might usefully form the starting point for a more elaborate investigation, although work on the survey is continuing. The complaints concentrated on abysmally low pay, often working out a derisory real rate per hour (that is including time for preparation, correcting students' work and administrative work). Hours for part-time work were often long: one woman found herself with *fewer* contact hours after her post had been made full-time than before. Certainly for married women, temporary or part-time work *did not* provide an entry into a full-time job. Experience of teaching does not seem to have weighed with appointing committees. The paid work took time from the individual's own research and the pay was too low to finance sufficient domestic help. Without completing her research, the individual remained in a weak position when applying for jobs. If she took no job, she was out of touch with academic life and without access to libraries, seminars or other facilities.

After a while such women can become very valuable as well as being very cheap employees. These women are obviously able and committed to their work – why else should they continue under such adverse conditions? – they are experienced and more mature than the young (male) graduate student, and therefore likely to provide better teaching for students at all levels. Because the posts are part-time or temporary, the universities recognise no obligations to these

staff. No wonder universities like the system. No wonder they fight so hard to prevent either ASTMS or the AUT from organizing those in these marginal posts. No wonder some universities deny bargaining rights even to the AUT.

(c) *Research funds*

One reason for suffering such exploitation, as those in the survey regarded their situation, is that without an institutional affiliation, it is impossible to obtain research grants from public or, indeed, from most private sources. But how successful are women in obtaining grants? It is sometimes alleged that they are discriminated against. There are no statistics available. What little information is available about grants made, their size, the beneficiary and the purpose of the grant, suggests that further investigation would be worthwhile.

Information from the Department of Education and Science (private communication) about applications to and awards by the SSRC in the first two Rounds of 1974 show the following: women constituted 12% of the applicants, but received only 8% of the awards; whereas 58% of the men received awards, only 40% of the women were so fortunate. Women received only 4% of the funds awarded. On average, women applied for substantially smaller sums than the men. This in part reflects the policy of making research awards to professors as heads of research projects, although they are normally expected to continue their full-time teaching and administrative work. Of the awards announced in the January 1974 SSRC Newsletter $26\frac{1}{2}$% were made to Professors, although Professors constitute only 10% of all university staff. As we have seen, only 1.6% of Professors were women in 1971. On that occasion, the largest grant was made to a man, a Professor, for £60,922 and the largest grant made to a woman, also a Professor, was £4,111.

(d) *Discouragements*

Women may abandon the attempt to achieve their potential. There are many possible reasons. Lack of encouragement is one of the reasons which Blackstone and Fulton mention. As one of the women in the survey of part-time and temporary employment remarked:

"I feel that people are less concerned about my prospects in a junior temporary post than they would be if I were a man. My husband has frequently been encouraged to complete his

research, whereas I cannot ever remember being asked [about mine]".

The conditioning of girls to a "feminine" role may be another reason. There is evidence that girls are not encouraged to persist in face of difficulties, lack of encouragement or hostility, that teachers prefer girls to be docile and conform, but find the more aggressive, lively boys more interesting. (Seear, 1964; Lobban 1974 reviewing mainly American sources). Readers, text-books, and the substance of much curriculum, of visual and audio aids tend either to ignore girls and women or to assign them only a passive role (Lobban, 1973, *Shrew*, 1973, Rendel, 1974).

In order to conform girls may suppress original and unusual ideas, instead of exploring and developing them. Yet it is these ideas which will enable them to get the first-class results, to do the exceptional work, and to make the outstanding discoveries. Are those second-class Honours degrees the result of having learnt too well in childhood the lesson of conformity ?

Girls seldom see women in positions of power and authority. Men now outnumber women as heads even of primary schools. (*Statistics of Education*). Since gender is learnt very early, few girls (or boys), will model themselves regardless of sex on those whose characters they respect or whose life interests them.

Matina Horner (1968) has demonstrated that girls may fear success. Success for girls means, in conventional terms, stepping outside the ascribed feminine role, perhaps arousing hostility from men and also from women, setting out, as it were, in a land inhabited by a foreign race, men whose habits and ways of thought are said to be quite different.

(e) *Double Standards*

The evidence showing that men and women are perceived differently has already been referred to. Other similar experiments have brought similar results (Deaux and Emswiller 1974; Touhey 1974). At work men and women are differently perceived:

"While it is not laid down that this appointment should be offered to a man, in view of the supervisory and committee work involved, I think that a male applicant would be favoured." Letter from a local authority to an applicant for a job. (Rendel, 1964).

'If women do not show initiative in actively seeking promotion,

they are overlooked, because initiative is a desirable quality of senior management. However, women who have agitated for better prospects or promotion or more equal treatment are branded, only too often it appears, as troublemakers." (Fogarty, 1971).

Thus, gifted women who pursue their careers with vigour may not merely be denied the rewards of their ability and energy, but be victimized by envious or prejudiced superiors. There is seldom an effective remedy. The recent rapid expansion has brought to senior positions some less able men who may be unable to tolerate a more gifted and energetic woman under them.

Fogarty (1971) suggests that women may be more acceptable in staff positions, as quasi-mother figures, where they are not competing for promotion. Men sometimes suggest that married women do not need promotion because their husbands are supporting them and that single women do not because they have no dependants. Of course, many women have dependants, and the argument is not applied to bachelors. – But should promotion be regarded as a form of outdoor relief ?

Because they are so few, women employed in higher education are very visible. This visibility adds severe constraints. Any real or imaginary faults tend to be attributed to the whole sex, but virtues and achievements do not necessarily, as has been suggested, have a contrary and beneficial effect. Each woman tends to be on trial for her sex.

Discrimination exercised through the institutions of society can lead to caution and self-censorship that result in lowered aspirations which in turn reduce the number of women seeking higher education and the senior professional posts which it leads. Will the ending of institutionalized discrimination end the self-censorship ? After the passage of sex-discrimination legislation we may find out.

If the criteria for promotion effectively recognized the working characteristics claimed by some to be shown by women in greater measure than by men, then more women would hold higher rank, and universities and especially students would be better served. (Masterman, 1974).

(f) *Caprice*

The issue is a wide one. Discrimination on grounds of sex is a form of arbitrary treatment. Men as well as women are treated arbitrarily

or capriciously in higher education. Only a few of many scandalous cases receive press coverage.

The lack of rules of procedure, the absence of a code of professional conduct and the inadequacy, inappropriateness or lack of criteria for the assessment of an individual's work enable arbitrariness to be given full rein. The temptation to act unscrupulously is high in a competitive profession becoming more competitive owing to lack of expansion and indeed retrenchment, the chance of exposure is low and the risk of consequential punishment scarcely exists.

4. CONCLUSION

In this article I have reviewed some of the evidence about the position of men and women in higher education and suggested some questions. I have argued that there is discrimination against women and that the discriminations are cumulative. Such discrimination is unacceptable in institutions which are, supposedly, communities of scholars and teachers, whether as elitist or democratic institutions, and is quite intolerable in institutions financed almost entirely out of public funds.

The psychological impact of this discrimination is repressive and destructive, especially to women, but, I suggest, as a consequence of its effect on the power structure, to men also. This adverse environment puts women especially in a double bind, condemned either to failure or to be less successful than their ability and their commitment to their work justify – and this is itself a form of failure, although women who have achieved such limited success are frequently labelled as having "made it", a judgement to which they can submit at best with ironical detachment.

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SEX—ROLES IN READING SCHEMES

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ABSTRACT

This article looks at previous research on sex-role presentation in British reading schemes and the effect of the content of the readers on children's own attitudes. Evidence of sex-role stereotyping in two British reading schemes is presented and the author discusses the way in which such stereotyping is likely to influence the reader.

I. INTRODUCTION

ALL the analyses of sex-role presentation in British reading primers (Lobban, 1974; Moon, 1974; Northern Women's Groups Education Study Group, 1972) have found a predominance of male central characters and a rigid separation of the activities, possessions and aspirations of female and male children. Presentation of adult roles has been found to be similarly rigid, with an almost exclusive concentration on the wife and mother role for females; virtually no sharing of domestic chores; and the world outside the home reserved almost entirely for males. In short, the content of the reading primers has been shown to be sexist, to present an uncritical picture of a world divided sharply and immutably according to sex, where males are superior in all but the domestic sphere, and where males predominate. To date sexism has been documented in seven British reading schemes (Breakthrough to Literacy, Happy Venture, Janet and John, Ladybird, Nipper, Ready to Read and Through the Rainbow) and 200 books from the "Individualized Reading" bibliography. All these reading books were published in or before 1970 and all are of the traditional childbased story format.

The explicit function of a reading scheme is that of teaching children to read. The reading scheme performs another equally important function, that of informing children about the "real" world outside of their own immediate experience. (Weitzman et al, 1972). The "real" world that the seven British reading schemes studied to

date present is one where the sexes are consistently different, and where females are consistently inferior in all spheres that are ascribed high status in our society. The schemes thus endorse the notion that the sexes are "naturally" different and that females are "naturally" inferior to males. Females and males in our society generally display sex-differentiated interests, aspirations and goals. What is in dispute is what causes these psychological sex differences. Two types of explanation of what causes such observed differences exist. Representatives of the "biological" school of thought (e.g. Tiger, 1968) argue that such psychological sex differences are "biological" and hence immutable. The literature on the relationship between sex hormones and psychological characteristics fails to find such a relationship (Hamburg & Lunde, 1966). Representatives of the "social" school of thought(of which I am one), argue that the plentiful evidence of sex-differentiated socialization from birth onwards (Kohlberg, 1966; Mischel, 1966); and cross cultural evidence of whole societies of "unnatural" women and men (Chodorow, 1972), suggest that the sex differences we observe in our society are learned differences. The "social" school sees sex-roles as cultural phenomena which are inculcated through socialization.

This nature versus nurture argument is crucial in the consideration of sex-role presentation in reading schemes. Most people would agree that the content of children's books has an emotional and intellectual as well as an informational impact on the reader. Many theorists argue that reading scheme content is particularly influential in this respect as reading schemes are often the child's first contact with the written word and are presented within the classroom, a context of authority. (Women on Words and Images, 1972). There is evidence in the literature that children assimilate the values expressed in the books they read (Weitzman et al, 1972). "Biological" theorists (e.g. Thompson, 1974) argue that the values related to sex-roles which children's books present are not similarly assimilated because the sexes are "naturally" different. The content of sexist reading schemes, argue such theorists, reflects real differences between the sexes, it does not influence the readers' attitudes. "Social" theorists assign an active role to reading scheme content. They argue that sexist reading schemes are one of the things which reinforce the cultural sex-typing that the child will have experienced prior to going to school. The manner in which such reinforcement occurs is explained in various ways but all "social" theorists agree that it is the

like sex model which will influence the child's own attitudes and behaviour, and that the child will assimilate the books' relative evaluation of the sexes. There is little empirical documentation concerning the precise way that the sex-role content of reading schemes is assimilated. Hartley's (1972) work suggests that male children learn the male role from symbolic sources and the peer group, while female children learn their role in a more direct fashion from real adult females. This suggests that sexism in reading schemes might more directly affect the behaviour of male children. Children of both sexes are likely to incorporate the evaluative aspects of reading scheme sex-role presentation as they assimilate the other values expressed.

All the seven British reading schemes analysed to date have been shown to be sexist. All of them present a sex-role division which is even more rigidly male dominated than is our present society, where the definitions of "proper" female and male behaviour are rapidly changing (Hartley, 1972). Any effect which these books have on the sex-role attitudes of their readers must be in the direction of reinforcing traditional sex-typing. If boys' own behaviours are particularly influenced by reading schemes they will find few models in these seven schemes to suggest even vaguely "non-masculine" behaviours. If children assimilate the value orientation of these schemes they will go a long way to further impairing female children's self-evaluation.

The seven British reading schemes thus far coded are all widely used but were all published no later than 1970 and were all of a traditional format. In this study I have coded another widely used scheme but one that has a non-traditional fantasy story base. (Pirates and Dragon Pirates stories, revised 1970), and a very new and linguistically impeccable scheme (Language in Action, piloted in 1973). I wished to see whether fantasy or modernity might result in a decrease of sex-role typing.

2. METHOD

Sixteen readers chosen at random from the Pirates First Series (3 readers) and the Dragon Pirate Stories (13 readers), and the 34 readers in the Language in Action Teachers' Pilot Pack were coded by the author in terms of pre-established categories. The total number of all characters (animal, human, adult, child, fantasy figure)

TABLE 1

THE PERCENTAGE OF CHARACTERS AND CENTRAL CHARACTERS OF EACH SEX IN THE READING SCHEMES CODED

Reading Scheme	Characters' Sex				No. of readers		Sex of Central Character			
	Total No. of characters	Males	Females	Ratio of M. to F.			Male	Female	Both Sexes	Ratio of M. to F.
	No. %				No. %					
Pirates and Dragon Pirates	225 100	82.67	17.33	4.5 : 1	16 100		62.5	12.5	25.0	5 : 1
Language in Action	192 100	65.625	34.375	1.9 : 1	26 100		76.92	15.39	7.69	5 : 1

of each sex presented in the text and/or the pictures were coded for the 50 readers. Each character in a reader was counted only once in all coding and sexually ambiguous characters were omitted. The sex of the central character was coded in all readers where there was characterisation (N=42). The activities of the female and male characters (in the 40 readers where gender was specified in the text) were coded in terms of 22 broad themes and the number of readers in the scheme in which a character showed the activity. The adult occupations shown in these 40 readers for each sex were listed.

3. RESULTS AND DISCUSSION

(a) The ratio of male to female characters and central characters.

Table 1 shows the ratio of male to female characters and central characters in the two schemes. It is clear that there were markedly more male characters in the Pirates scheme (4.5 : 1) and more male than female characters in the Language in Action scheme (1.9 : 1). The ratio of male to female central characters in both the schemes was even larger (5 : 1). This male bias reflects previous findings for other British readers, indeed the male bias in central character in these two schemes is greater than the 2 : 1 ratio found by Lobban (1974) and the 4 : 1 ratio found by Moon (1974). In the Language and Action scheme there were not quite twice as many male characters but five times as many male heroes. The stories in both the schemes tend to focus on adventures and novel experiences and both schemes follow our sexist tradition and reserve these largely for males. Unlike schemes studied previously, the Language in Action scheme had individual males as central characters rather than a child of each sex with the male dominant. The Pirates scheme dispensed almost entirely with even female helpmates. In our society more than half the population is female yet a child who took her view of reality from these schemes could be forgiven for concluding that females were in a distinct minority and that those females who do exist are intrinsically inferior to, and less worthy of mention, than males.

(b) The female, male and both sex activity themes.

Table 2 shows the ratio of readers which showed males to the ratio of readers which showed females for the 15 activity themes which occurred in both the schemes. The overall ratio of male heroes to female heroines was 5 : 1 in both schemes. It is thus statistically

TABLE 2

SINGLE AND BOTH-SEX ACTIVITIES THAT OCCURRED IN BOTH THE
READING SCHEMES.

Activity	Ratio of Readers showing Males to Readers showing Females	
	Pirates (N=16)	Language in Action (N=24)
1. Leadership	8 : 0	3 : 1
2. Triumphing over a foe or adversity	11 : 2	3 : 1
3. Rescuing someone or something	5 : 0	4 : 1
4. Outwitting an enemy or competitor	3 : 2	1 : 0
5. Exploring alone	5 : 0	1 : 0
6. Showing bravery	4 : 1	1 : 0
7. Showing fear or cowardice	5 : 4	1 : 0
8. Being referred to or asked advice	3 : 2	2 : 0
9. Being evil or selfish	5 : 7	1 : 0
10. Doing heavy physical work	8 : 1	1 : 1
11. Nurturance or domesticity	0 : 4	2 : 3
12. Fighting someone or something	9 : 0	4 : 0
13. Doing strenuous physical exercise	5 : 0	2 : 1
14. Running	4 : 3	4 : 3
15. Horse riding	3 : 2	1 : 1

predictable that more males than females would be shown for all activities by both schemes. In fact, both schemes showed a higher ratio of female nurturance and the Pirates scheme showed a higher ratio of female evilness. Caring for animals was included in the nurturance theme and this was the only type of male nurturance shown. Domestic nurturance was consistently shown by females. No reader showed males actually caring for children, cooking, cleaning or washing-up, a profoundly unrealistic representation of present-day reality where many men and women share household chores. There were more than four male characters to every female character in the Pirates scheme yet this female minority managed to show more evilness than did the male majority. The plethora of evil red and black witches in the Pirates scheme accounts for some of this inflation (*white* witches, though, were always good). In the Pirates scheme few human females were fully characterized so the number of those who were evil is surprising. Notable among these was the evil princess who did not want to get married and kept getting the better of her suitors and Bella the stupid, evil and selfish housekeeper who

"worked very hard but she was always cross . . . But she was a very good cook so they were glad to have her in the castle." (Dragon Pirate Stories, Number D5, p 10). Child readers would be likely to glean two messages from these activities of female characters: that females' main role is nurturance and that they are not only inferior at every other activity, they are also often evil to boot.

Males showed greater participation in all other activities and neither scheme showed any females who explored alone or fought someone or some thing. While the male dominance in the majority of activity schemes is statistically predictable this does not mitigate its probable effect on female readers. The activity presentation reinforces both traditional sex-typing and our culture's devaluation of females and would probably reinforce sexism for all children and female negative self-evaluations. The 50 readers presented only two capable and resourceful female characters (Princess in Dragon Pirate stories, No. C3, and Gran in "Thumbs UP"). There were virtually no non sex-typed activities for either sex, so the schemes are unlikely to reinforce a desire to participate in non sex-typed activities for either sex.

(c)   *The adult occupational roles shown for the sexes.*

Together the two schemes showed 33 adult male occupations and 8 female adult occupations (Mum, Gran, Handiwoman, Princess, Queen, Witch, Teacher and Shop Assistant). Only the latter two female occupations are realistic jobs outside the home, while 24 of the male jobs were such realistic options. The only real both-sex job shown was shop assistant. No reader in either scheme showed a mum who went out to work. The view of the world of work was thus more male dominated than is present reality (see Lobban, 1974) and could scarcely be likely to suggest many new adult goals for female children.

4. CONCLUSIONS

Both the reading schemes analysed presented a world far more rigidly sex-typed than is our present reality. That such rigidity should be found in a scheme as modern as the Language in Action scheme is particularly depressing. Indeed one is driven to wish that the naturalists were right and that reading scheme sex-role content did not influence children. Any influence that these schemes have on children can only be in the direction of reinforcing extremely rigid sex-typing.

Virtually none of the readers presented non sex-typed models, activities or goals to suggest new nonstereotyped behaviours to the children. Neither of the schemes was any less sex-stereotyped than the other seven British reading schemes studied previously. If symbolic models are particularly influential on boys' behaviour as suggested in the introduction, then these two schemes present them with a plethora of dated stereotypes to emulate. Girls' self-concepts are already negatively affected by our society's devaluation of females. The female models and general devaluation of females found in these two schemes should help along the process of female self-hate.

Nine reading schemes in use in British primary schools are now known to be sexist and to portray an unrealistic world even more rigidly sex-typed than is our present reality. Children need preparation for present day and future reality but these reading schemes prepare them for a reality of twenty years ago and denigrate all females. What is needed at this point is not more studies of sexism in British reading schemes. We need new reading schemes which show equal numbers of real females and males participating in the variety of activities and occupations that they do actually participate in, and which question sexual inequality as it exists at present. How much longer are we going to have to wait?

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ASSUMPTIONS IN SEX EDUCATION BOOKS

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ABSTRACT

Although most people actually learn about sex from their peers, text-books about sex are an important influence in forming the attitudes of the adults responsible for sex education. At present, these books do not reflect life as it is but generalise from extreme cases in order to moralise about chastity and to promote a sexist view of society. Moreover, they abrogate their main responsibility of reducing the abuses of human sexuality e.g. unwanted pregnancies, abortions and V.D.

1. INTRODUCTION

SEX education is an open shop; anyone who can find a publisher can write a book of information, advice or opinion on this subject and be assured of some buyers. I shall make some suggestion about who the buyers are likely to be but, first, I want to outline the disorganised and inadequate provision of sex education in schools. Within this flimsy framework, it seems likely that what instruction is given is as riddled with sexual bias as most of the available texts.

2. SEX EDUCATION IN BRITISH SCHOOLS

Because of our education system and the controversial nature of the subject, it is difficult to assess what sex education is actually being given in schools. Some generalisations might be made, on the basis of research into recollections and attitudes of adults now in their twenties (Schofield 1973), about what was happening a decade ago. But this information is necessarily subjective and there are no objective, comprehensive data on the amount or content of sex education currently offered.

It is policy, at both central and local government level, to provide some kind of sex education within the school curriculum but, because of the autonomy of British schools, this remains a matter of recommendation rather than enforcement. Several Government Reports – Crowther (1959); Newsom (1963); Plowden (1967) – refer to the need for adequate sex education and it has been suggested that RSLA would provide the ideal scope for including moral and emotional education in the curriculum (Latey Report 1967).

Many independent bodies, such as the Family Planning Association, the Catholic Marriage Advisory Council, the National Marriage Guidance Council and Brook Advisory Centres help to provide a support system for the sex education given in schools (Burke 1970). These organisations sometimes send speakers into schools but the FPA believes that sex education should be given by the children's own teachers and runs special courses for those who feel they need help with the task.

In a recent survey of teachers' attitudes to sex education (Harris 1969) answers to 500 questionnaires provided the following data:

> 60% of Heads of infant schools claimed that children never asked about sex while in school.
> Over half the Heads of junior schools were against teaching girls about menstruation in school before it occurred and did not give information about mating, conception or pregnancy.
> Of secondary schools, only 10% gave direct information on contraception.

When this information is placed beside statistics of abortions and illegitimate births to teenage girls, one can only conclude that there is an urgent need for sex education, which is not being met.

TABLE 1.

Abortions to girls in England and Wales under 20 (1972)	31,281
Of these, abortions to girls under 16	3,099
Illegitimate births to girls aged 16–19 in England (1971)	19,002
Illegitimate births to girls under 16 in England (1971)	1,438

Information from Family Planning Association (3).

3 · ACTUAL SEX EDUCATION

Most people actually learn about sex from their peers. Schofield (1965) established that 62% of boys and 44% of girls interviewed

learned about sex from friends, in comparison with the 12% of boys and 18% of girls who learned from teachers. Follow-up research with a group of the same subjects (Schofield 1973) revealed that, although 87% of men and 81% of women actually learned about sex from schoolfriends and workmates, 63% of men and 50% of women would have *preferred* to learn about it from teachers. Preference for learning from peers was only 3 or 4%.

4. HOW MUCH SEX EDUCATION IS PROVIDED BY BOOKS?

Schofield (1965) found that only 7% of boys and 0% of girls mentioned books as a source of sex information. Of the follow-up group (Schofield 1973) only 7% of men and 4% of women listed books as the preferred method of learning about sex. This would seem to support the conclusions of Harris (1969) that "There are groups of teenagers . . . who are unable to derive much benefit from formal teaching or from textbooks . . . Yet these are the pupils whom it is most important to help . . . Textbooks are not a suitable form of information for barely literate teenagers, whose needs are too acute to be ignored."

5. WHY THE BOOKS MATTER NOTWITHSTANDING

Given that books play a very small part in the acquisition of sex-knowledge by young people, how is one to account for the large number of sex education books, from cheap pamphlet to costly hardback, on the market? The Health Education Council's current source list of sex education lists nearly 200 individual titles and schemes and the FPA's 1974 booklist mentions 230. It is possible that young adults who have not had sex education in schools turn to the easily available paperback to fill the gaps in their knowledge, but this is not likely to account for a high percentage of sales figures in view of Schofield's findings.

The most likely buyers are those who have to *give* some form of sex education. Teachers, youth workers, health visitors, lecturers and parents have to compensate themselves for their own lack of instruction in schools before they can pass on reliable information to the next generation. And since they will inevitably pass on attitudes with facts, the content of sex education books remains crucial in spite of the children and teenagers who will never read them.

6. WRITERS OF SEX EDUCATION BOOKS

The writers of sex education books fall into the following categories: medically qualified doctors, like Benjamin Spock; Psychiatrists and Psychologists, like Anthony Storr, Wardell Pomeroy and James Hemming; Headteachers, like Kenneth Barnes and a sprinkling of clergymen, like Richard Hettlinger and journalists, like Clare Rayner.

Most of the available books give factual physiological information, together with some form of moral guidance, even if only a discussion of moral issues involved. In describing puberty, conception, gestation and childbirth most authors are on safe factual grounds, although even here there are some lamentable errors (see Hill and Lloyd-Jones 1970). Wardell B. Pomeroy, for example, (1969 p. 96) says that condoms are 99% effective as contraceptives and that the diaphragm is "not suitable for young girls".

When writers move on to psychological or sociological 'facts', they tend to adopt the same tone towards them as to anatomy, presenting their own and others' unwarranted assumptions and speculations as universally agreed phenomena like the location of the uterus. The most common of these assumptions, with no evidence other than personal anecdote adduced, is that of the innate psychological differences between the sexes.

7. SEXIST ASSUMPTIONS

Dr. Benjamin Spock (1955) in a chapter entitled: Some Differences Between the Sexes: are they inborn or taught? says: "It's almost impossible to be sure which characteristics in girls and boys are due to inborn nature and which to rearing. I have no new proof to offer. I personally think that though there are no absolute differences in temperament, there are quantitive differences right from birth which then become accentuated . . . by upbringing. I think that there are more baby boys who are restless and insistent . . . from the start, that more girls take life as it comes even in the cradle." He goes on to quote three personal anecdotes and spends the rest of the chapter generalising about aggression, creativity, ability for abstract thought, car-driving and virility, and dependence. He concludes: "It's the temperamental difference as much as the physical differences that draw men and women together and it's a great mistake to try and minimise them in any way. They are there to be enjoyed not groused about."

Dr Haim Ginott, a psychologist, says in a chapter on teenage sex (1973) about "effeminate" boys: "They may lack the typical agressiveness expected of boys in our culture ... they feel more comfortable in the company of girls ... There is a danger that they may grow up to be inadequate adults, too fearful to live out their biological destiny ... Group therapy with a male therapist and masculine activities in the company of other boys is desirable." Not a word to question the cultural expectation of aggressiveness or the "biological destiny" which makes it inappropriate for the male to be comfortable in the company of the female. These authors are quoted here not because of their authority but because of their enormous sales.

The conviction on the part of most sex educators that the two sexes need explaining to each other as if they were separate species leads to large numbers of companion volumes: *Design for Living for Boys* (Richards, L. 1963) and *Design for Living for Girls* (Richards, M. 1963); *Boys and Sex* and *Girls and Sex* (Pomeroy 1968 & 1969). Other popular titles are: *The Opposite Sex* (Hacker 1970) and *Your Guide to the Opposite Sex* (Perry 1970).

These titles suggest approaches based on a belief that all women are alike and all men are alike and that most important differences are those between two genders of the same species. That such a fantastic hypothesis should be presented and accepted without supporting evidence is a damning indictment of the sex educator. And while he sits in his ivory tower pontificating about the gulf between girls and boys, they are closing it by getting pregnant outside his window.

8. PSYCHOLOGICAL AND EMOTIONAL DIFFERENCES BETWEEN THE SEXES

In the introduction to *Boys and Sex* (1968 p. 10), Wardell B. Pomeroy says: "I have directed this book towards boys rather than to boys and girls because the two sexes have different approaches and attitudes which could not be readily combined in one volume." Yet much of the material is duplicated in the companion volume published a year later (Pomeroy 1969). It is difficult to avoid the suspicion that much of the division of material into two companion books is to create two areas of sale, to publish one book for the price of two. What it is not is educative.

Schofield found (1973) that his informants felt strongly that they had not been told enough about the sexuality of the other sex. But how many girls would find it easy to ask for *Boys and Sex* and how many boys would go for *Design for Living for Girls* in the usual book-buying situation ? And since it seems likely that teenagers don't buy them anyway, how much less likely to take down the "other" volume from a school bookshelf ? Yet it takes two to tango, and books about dancing always give both partners' steps.

9. FEMALE SEXUALITY

It is 70 years since Freud wrote that the erotic life of women was "still veiled in an impenetrable obscurity" (Freud 1901-5). As far as most sex educators are concerned, it still is, or might just as well be, for when they draw aside the veil they find nothing but a mirror, reflecting their own prejudices and conditioning.

Here is a typical passage referring to the sexual drive of an adolescent girl: "You should not for a moment think that girls have no sexual physical sensations at all. These sensations are different from yours [boys'] in that they tend to be rather vaguely spread throughout the body and seem to most girls just general yearning feelings – rather like looking at a beautiful sunset and wanting to keep it but not knowing how." (Perry 1970 p. 27). NB. This passage does *not* refer to romantic love but to libido. Here are some more:

"I think it would be fair to say that until she is married and deeply roused by all that marriage means, the desire for sexual intercourse is not very strong in a girl." (Barnes 1958 p. 155).

"Sex is less important to girls than their public image . . . Girls in fact seldom talk about sex as sex, and even when they do, they don't talk about it as boys do" (Pomeroy 1969 p. 27).

"In general, physical desire in boys and men is considerably more insistent . . . A boy's sexual interest can also be stirred up by a good figure alone . . . or a pretty face, even though the girl's personality has no special appeal. He can be aroused by pictures, by stories, by thoughts . . . Most girls have a less intense, less persistent physical desire. Their bodily response is relatively dormant until stirred up by a boy's approaches. A girl is not so apt to be carried away by a boy's appearance alone . . ." (Spock 1955 p. 189-191).

The message is clear: male sexuality is genital, easily stimulated and urgent; female sexuality, where present, is diffuse, easily sublimated and will probably go away of its own accord. What insight into one's own or one's partner's sexual response could such a picture give? Surely it would make girls fear their boyfriends and boys despair of their girls, encourage boys to be anxious about their virility if their sex drive is not urgent and make girls ashamed if theirs is.

There is a story in various classical sources quoted by Graves (1955) that Zeus and Hera argued about whether the male or female gained more enjoyment from the sexual act. Failing to agree, they referred the matter for arbitration to Teiresias, the androgyne, who gave this verdict:

"If the parts of love-pleasure be counted as ten,
Thrice three go to women, one only to men."

This authority seems just as weighty as the ones cited, or rather not cited, in support of the alternative hypothesis. It is certainly no more of a myth than that of the lower female sex drive.

10. THE SEX EDUCATORS VIEW OF MARRIAGE

The majority of these books preach the message that what men want is exciting sexual encounters and what women want is love and marriage. "Often in marriage a woman's whole life is adjusted to her husband, his needs and the thought of a family." (Barnes 1958 p. 54). "Every young man should be aware of an all-pervading weakness in girls – the tendency to let love, or what they think is love – swamp all considerations of social outlook, politics, religion, ethics and indeed anything else." (Ibid, p. 178).

In a field of such sweeping generalisations, let me make some of my own: thousands of men find it difficult to integrate sex and love; they have trouble when they sleep with the women they love and when they love the women they sleep with. Sex educators are often drawn from this section of the populace.

"It may take a girl weeks, months or even years after marriage to unlearn what she has been taught about being 'a lady' . . . for a full and happy married life, she must learn to respond in the bedroom while she maintains a ladylike appearance the rest of the time . . .

It is important for girls to understand this dual nature of their lives as soon as possible." (Pomeroy 1969 p.24).

". . . the second role is her relationship with boys, in which she must learn to be both ladylike and, eventually, unladylike, when that kind of behaviour is required." (Ibid. p.30). What is being projected here? A duality inherent in the female personality, a conditioned schizophrenia, or the fearful neurosis of the Western male?

Women in the West have been treated as all three aspects of the triple goddess in Graves (1961) – mother, wife and harlot. The first two aspects eventually fuse into one: the kind of girl one marries, "Just like my ma", the woman who ends up, as any traditional wife does, *bearing the same name as her husband's mother*. The dichotomy left is that between wives and mistresses implied by the quotations from Dr Pomeroy. A successful wife must learn to be a mistress in the bedroom.

It seems that most sex educators would like to preserve the status quo of traditional marriage. If they fail to do so, while exhibiting the deceit and hypocrisy they deem acceptable within that institution, one can only praise the integrity of the young people who reject it.

11. A SHIRKED RESPONSIBILITY

In an overpopulated world, the first responsibility of the sex educator is to prevent unwanted births. Indeed, one can imagine no kind of world in which it would take second place. According to Caspar Brook (FPA 16) there are about a $\frac{1}{4}$m unwanted pregnancies in Britain every year. In the light of these figures and the fact that 3,000 people catch VD for the first time each week (HEC), it is clear that sex educators are failing in their task.

To talk about the joy of the female in maternity, in terms of her ultimate or only fulfilment and to give her no advice, or inaccurate information, about contraception is an irresponsible act. The emancipation of women and the right and ability of girls to act outside or at least in addition to the domestic sphere can do nothing but good in altering those terrible statistics.

At a time when people are marrying younger and living longer and beginning to be forced by economic pressure to have smaller families it is impossible to keep up the pretence that marriage and a family are a full-time career.

12. AN HONOURABLE EXCEPTION

A psychologist and a school medical officer have collaborated on a book which might go a long way towards changing the attitudes of those who teach and those who learn in schools about sex. (Hemming and Maxwell 1972). *Sex and Love* contains this rare ray of hope: ". . . marriage is becoming more of a partnership. It is no longer the old style of hierarchy, in which the husband was supreme and wife and children were subject to his authority . . . sexual equality and *quality* in sexual relationships go together." (p. 58-59).

13. CONCLUSION

Although textbooks are not the main source of information on sex for most teenagers, they are there as an influence in most schools, either openly on the shelf, or implicitly in the reading of those responsible for sex education in the classroom. At present they abrogate their main responsibility of reducing the abuses of human sexuality: unwanted pregnancies, abortions and VD, in favour of moralising about chastity before or within marriage and promulating their sexist views of society. They do not reflect life as it is but generalise from extreme cases.

There is not, and probably cannot be, any "scientific" proof about whether the sexes differ in anything but physiology or not. So we can only try to take the most optimistic and affirmative line; the more you lump people together on the basis of their similarities the less you will be aware of their differences.

Until sex educators see this necessity, it will take all the humanity, sensitivity and intelligence teachers can muster to help their pupils in the difficult process of bringing their emotional maturity up to the level of their sexual readiness.

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ADOLESCENT GIRLS AND MODES OF KNOWLEDGE

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ABSTRACT

The understandings girls have of Hirst's seven categories of knowledge are the subject of this investigation. The girls in the sample were not well informed about these areas but they did not confuse them and said something about each category. Some differences between boys and girls emerged and these were related to differences in their perceptions of peer groups, and in particular the kinds of language encouraged by these groups. Some implications for education are suggested.

1. INTRODUCTION

IN 1972 some research was carried out with adolescent girls in South Wales, and a full-length report written on it[1]. The first half of that research, which dealt with these girls' understandings of and uses of their families, peer groups, relationships and the so-called adolescent 'identity question', has been more briefly described elsewhere also[2] and in this paper now I describe the second half, which studied these girls' attitudes to and understandings of various modes of formal knowledge.

2. DEFINING FORMAL KNOWLEDGE

This is clearly a tricky and complex matter, and so it turned out. The first step was to remove from our thinking the factors which might be expected to clutter the 'pure' state of the knowledge in which we were interested. Such factors are the school, the teacher's evaluation and structuring of knowledge, and so on. But since those things must necessarily modify knowledge as that is formally presented to young people a more fundamental definition or alignment of knowledge and knowing was needed for research purposes, which could be expected to hold constant no matter the influences on it.

This alignment I found in Hirst's seven categories of knowledge as ways of knowing logically irreducible to each other[3]. With one exception[4] Hirst has not spelt out what he means by these seven types and I therefore did so for myself, a brief summary of these being given below. The reader may not agree with these but he will at least know what we understood by them.

Thus we are examining the understanding our sample had of, not school 'subjects', but Hirst's seven categories of knowledge as the major and most profound modes of knowing our culture has differentiated. But to 'disguise' these when talking to girls, and also to discover how such understandings were affected by understandings of other things in the environment, we enquired also about what can for brevity here be grouped into four areas, namely, technologically-produced things broadly relating to the youth culture (fashion, magazines, travel, etc.); everyday social knowledge (interaction, relationships); thought and reflection themselves; and a random group such as humour and psychomotor skills. The breakdown on the interviewing schedule showed 25 areas of phenomena, reality or knowledge about which we enquired; 6 of these were wholly, and another 6 partly, concerned with the seven ways of knowing. The interviewers were graduates who had already been working with these girls in school and youth work, and had established confident and easy relationships with them. Our sample was about 45 working or lower-middle class girls of varied abilities between the ages of 14 and 17[5]. They knew research was being carried out but did not see the interviewing schedule or know of its existence, so that the seven categories were not seen as a group by them (the questions concerning these seven types were mixed randomly with those on other areas).

3. THE IMPORTANCE OF THIS ENQUIRY

The importance of studying this matter seems to lie in two areas. First there is the question of the current status of knowledge, especially formal knowledge, in education. We hear often that such knowledge is not relevant to young people, who would be better occupied in more general attention to their personal and social development and the matter of their place in the community. This remains largely unresearched sociologically, so that there is a danger of the argument going by default. But secondly there is the question

of girls, and the opportunities they really, rather than nominally, have to acquire a thorough education in the modes of knowledge, in the light of their own capacities seen in themselves and in contrast to those of boys. Many assumptions, often on little evidence, have been made about girls' capacities. We carried out this research to throw light on these questions.

4. SEVEN TYPES OF KNOWING

We can now say extremely briefly what we understood by each of the seven types of knowledge Hirst suggests. These types refer to differentiations in our basic awareness of reality at all, such differentiations however, once achieved, being not logically convertible to each other. Thus for example philosophical knowing, though it depends on hermeneutic knowing (interpretative knowing of men's meanings and intentions), is not merely a branch of that; it is different in kind. The seven kinds are mathematical/logical (knowledge of relationships between things regardless of their 'content'); scientific (what we know empirically through the senses); hermeneutic (knowledge of what men mean or intend on actual occasions); philosophical (knowledge of meaning generally, of what it makes sense to say in principle); moral (knowledge of the one fact of man's situation which puts him inevitably and always into decision-making positions for which he is responsible); aesthetic (experiental knowledge of the actual works of art that exist); religious (knowledge after the other six are exhausted; knowledge or its substitutes – e.g. faith – about the unknowable).

5. FINDINGS

Now very briefly for the main findings. They are broadly two. The first is that, with inner variations from girl to girl and category to category, these girls do have some clear differentation in their minds as to the nature of these types of knowledge, and that such differentiation actually is not molested by the other areas of their lives we probed (media, youth culture, relationships, etc.) *seen as knowledge*. One chose furniture one liked, listened to records, put on make-up, and so on, but these things were not absorbing in terms of awareness at all. They were to be managed and handled in so far as they were conducive to successful peer relationships. It does not appear, as

commonly assumed, that discrimination between *types* of knowledge, rather than knowledge's content as 'subject', is blocked by the kinds of artefact associated with those other things. This was brought out by precisely the fact that our questions about these types were 'disguised'. (Thus we asked not about 'science', 'art', etc., but about nature, things that work, thinking, painting, calculation and proportion, language, right and wrong, death, and all manner of things). Thus the way was open for these girls to see the albeit hidden modes of knowledge unsullied. They saw mathematical knowledge, to take the first, as a self-contained area, a little universe, which had little connection with (though not little application to) the ordinary world. It is an arbitrary mental convention characterized by clarity and (interestingly) speed, and the girls feel fairly exactly that they have it or they don't. Some hate it, others do not; as one said, it 'fitted her mind'. It is not connected with the body, feelings, fun, and so on. Next, the girls saw the empirical-technological world (the world of nature and man's exploitation of it) as something huge that frightened them. They seemed to have little microscopic picture of this world, and things like the intricate patterns on sea-shells, for example, were not mentioned by them. Curiously, the electronic and technological worlds were seen in the same way. As one girl said, 'It is too big for us.' Whether this is associated with the traditional view of women as passive I do not know. In the third area of knowing, the hermeneutic, the girls responded very positively to our questions. They raised often the idea of seeing what others were 'getting at' in talk, and, strongly, of knowing something oneself without being able to explain it. The suggestion was present that these girls understood language as that which can never fully say what is intended, so that communication is necessarily a series of attempts at directing the attention of the other to an ineffable area.[6] As one girl said, 'Sometimes I know I'm not going to be able to explain what I feel, and don't try. I feel you know what I'm feeling, although we can't put the words between us.' The fourth area, philosophical knowledge (still not described as such by us to them) was something which occurred, if at all, when one was alone. Being alone was conducive to thought about general meaning since the mind when alone was less likely, the girls often said, to concentrate on contingent, particular realities. Furthermore, 'being alone' for these girls was usually highly residual and not always liked; yet it led the individual back from individual problems to general ones (e.g. Erikson's identity

question emerging as a last resort – 'Who am I anyway?'.) As one girl put it, this sort of thought 'excludes everything else'. On the fifth category, moral knowledge, the girls had very clear ideas in that they thought they usually knew when something was right or wrong, and furthermore that such feeling of rightness was itself what made an action right. There was much talk of 'inner' rightness; as one girl put it (her emphasis), 'You *learn* (morality) from others, but you *know* in yourself'. The sixth category, aesthetic knowledge, brought a negative: the girls had little explicit idea, apparently, of what 'art' is. This very fact may support our view that real art knowledge, as a category, is not art theory but experience of works of art that exist, opportunities for which experience these girls had had (apart from poetry) all too seldom. Poetry, interestingly, was seen in terms of whether it was needed or not, or a 'help'. As one girl put it, it 'begins to help explain things'. The responses to the seventh category, religious knowledge, were characterized by ambivalence. It was suggested that some ultimate category or Being did exist but shouldn't, or should but didn't; that it was irrelevant but ought to be relevant, was mysterious but obdurate (kept re-appearing'); also that it 'got pushed aside' or was taken for granted. Only a few girls played the old themes of a good God but a suffering world, or questions such as reincarnation. As one girl said, 'I just don't know, but I ought to know whether I do'.

From these all too sketchy comments what needs stressing is how these girls *clearly said something* about each area we referred to. Since we did not name the categories, but merely described them, the suggestion is greater that the girls distinguished between these categories very deeply, in ways to which the necessarily brief references here do little justice; indeed that, in Hirst's terms, one *cannot* confuse such things without talking nonsense. The point is highlighted when one compares these responses with those obtained when asking about not knowledge categories but 'school subjects'. The answers then refer to the teachers, to whether they 'make it interesting', and to time-table structuring. But in terms of categories of knowledge themselves, it seems from these answers that adolescents may be grappling at a threshold to epistemological differentiation of real importance if only if only they are given occasion to do so by having their attention drawn thereto. The girls were far from well-informed about these areas but they did not confuse them. Education could confidently rely on this fact far more than it does presently.

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6. SEX DIFFERENCES AND KNOWLEDGE CATEGORIES

The second broad finding of this research concerns the well-known question of why girls either are thought to, or actually do, perform better in some subjects than others, and better or worse than boys from one subject to another. For although they could clearly differentiate between knowledge categories it does not follow that their talents or information were evenly distributed across those fields. That was a matter of recognition. Their capacities in one area rather than another, however, seemed to correlate with the use they made of language in peer-group interaction. In the first paper mentioned above, and in the research report, we refer to the ambivalent use girls made of peer groups and the pressures on them to do this. To make relationships mattered to them more than anything else. It was necessary to them to belong to peer groups, to be and be seen to be social not solitary, and so on, yet *equally*, and here, unlike boys, their attractiveness and sociability needed to be seen not to depend on such groups too strongly but to emanate from themselves individually. Thus, an interested boy would not want this girl's attractiveness to evaporate when her supporting friends were not present, nor was such attractiveness to be merged only with theirs and in their presence. (With boys on the other hand it was precisely membership of such peer groups – and also the common consequent absorption in shared task-activities – which made for the boys' feelings of security and confidence, and thus often his attractiveness too). The girls therefore stood a little askance from the classical tight-knit, morale-evoking peer-group pattern – askance, yet not wholly apart. The position was ambivalent. As a result, it seemed to us, girls diversified their use of language more in peer-group exchanges than boys do. As the work of Bernstein and others indicates, language of relatively stable, tight-knit groups based on diffuse roles is likely to be context-dependent; it is also affirmatory, it 'celebrates' group membership. (Simple examples are of the 'we are the champions' kind; the 'we are' declaration is fundamental here whatever disguise it takes on). But in less tight-knit peer groups language tends to be both more explicit and attuned to express the wider variety of nuances of social interaction which greater *individuation* of membership occasions. Since girls are ambivalent toward the peer group, maintaining both an individual pose and a group one, it is arguable that more and subtler shades of distinction of type of interaction occur within them,

that the girls observe these and that they express them. They do 'affirm' their peer group membership, but they also exchange information about who is going with who, about their success or otherwise in these matters and their reasons for this. This slight individuation from the group enables contrasts between individuals' personalities, including their own, to stand out more clearly, and their need to be expressed. That such things are observed may occasion the earlier social maturity commonly attributed to girls. That such things need expressing, however, concerns language.

For this reason the hermeneutic mode of knowing, the understanding of what others say and think, may if only slightly, be more advanced in girls than will their understandings in areas which do not require that kind of knowing. In practice they will, other things being equal, be more at ease with discussion, literary arts, moral knowledge and religious knowledge (at least discussion of those things) than they will in other areas, that is mathematical and scientific. The one exception, the one area depending on hermeneutic knowing (though qualitatively different from it) where these girls do less well, is the philosophical. But it is precisely philosophical conception (like mathematical construction) that may, at some deep-seated level, be connected to the more affirmatory language that the tight-knit, loyalty-evoking group uses. Even the most analytical philosophy is positive in that it is universal and abstract. The peer-group boy is often loyal not to certain people but to 'the group'. He is therefore less magnetized to an understanding of particulars in that group; he may need to measure up to them but this can often be achieved, in that context, by task performance. The girls are constrained to observe and understand the *particular, contingent* nuances which are found in interactions between people already rather more individuated. Scientific, mathematical and philosophical knowledge are universal in nature. Interpretations of persons' meanings, literary works, actual moral decision-making and its basis (not moral philosophy) and actual religious beliefs (not religious philosophy) are particular. That boys do better at mathematics than girls is well documented, and girls seem certainly less likely to be philosophical, mathematical or scientific in turn of mind than appreciative, interpretative and critical. Certainly other factors than peer-group language – most obviously traditional expectations of the female – will also affect the picture; this is undeniable. But our research suggested that girls have greater opportunity through their ambivalent

stance in the peer group to diversify their understandings of other individuals, to be called upon to express these resultant differences and in a greater variety of ways; humorously, sentimentally, sceptically, and so on; they would have to excuse themselves, use the *double entendre*, reserve judgement while still saying something to fill the gap, elicit information on gossip without seeming to. A greater use of the play of language forms (though this may not greatly advance vocabulary) seemed to follow in our girls, and the importance for their education must be crucial.

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3. *The Logic of Education*, Hirst & Peters, Routledge 1970 chap. 4. Also *The Logic of The Curriculum*, in *The Curriculum: Context, Development and Design* (ed. Hooper), P. H. Hirst, Oliver & Boyd 1971, pp. 232-250.
4. *Cambridge Education Journal*, 1973-4. These numbers contain a paper by Hirst on art as a mode of knowledge, and two rejoinders, the second of which was by Louis Arnaud Reid. I want to emphasize, in fairness to Professor Hirst and myself, that the descriptions of the seven modes of knowledge in this present paper by no means always concur with his; for example I find myself rather strongly in agreement with Reid's rejoinder to Hirst about art. However, I am sure the study of education is in Hirst's debt for his having drawn our attention to the value and validity of these categories, and I personally am grateful to him for a long and vigorous correspondence on these matters. My contention is that while these categories are indeed logically discrete from each other their actual acquaintance is at least partly a matter not of logical derivation but of experience.
5. This was the sample for the research as a whole; rather more than half answered our questions on knowledge.
6. cf. Jurgen Habermas, *On Communicative Competence*, in H. P. Dreitzel, *Recent Sociology No. 2*, Collier-Macmillan 1970, 114–150, for an elaboration of this point.

THE IMPACT OF INNATE PERCEPTUAL
DIFFERENCES BETWEEN THE SEXES ON
THE SOCIALIZING PROCESS

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ABSTRACT

An exclusively cultural explanation is insufficient to explain sex differences but so is an exclusively bio-deterministic approach. Certain sensory differences between the sexes have been demonstrated in the writer's research as a start to assessing the total problem in a synthesised way. The antecedents of these differences and their implications for education is discussed. Differences in learning are considered. In areas where the sexes contribute different skills, it is more important that the value placed on the differences be equal, than that the differences are eliminated.

I. INTRODUCTION

IMAGINE if you will, an experiment on socialization quite beyond the scope of the possible. In this experiment a small English village is isolated from the media, transportation to outer regions is halted, and only basic supplies arrive from the outside. The purpose of the experiment is to reverse the socialization process so that the sexes take on the opposite characteristics to those they now exhibit. The entire adult population is both alerted to the project and totally sympathetic to its aims. While everyone is actively engaged in this endeavour, they are also aware that they cannot communicate their aims directly to their offspring. They must achieve their objectives by appearing to do nothing of the sort. This control thus parallels the situation we are told exists in the real world, where frequently when direct parental influence cannot be demonstrated as an explanation of sex differences, it is concluded that they must be attributable to such subtle processes as the tone of the mother's voice,

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the amount of handling in infancy, the types of toys given to the child, and so forth.

Continue in your imagination as a witness to the expected outcome of this project about 5-10 years hence. You are visiting the village school and notice the following occurrences: Girls now swell the ranks of the remedial reading classes. Girls, but not boys, take their toys apart and put them back together again, while delighting in making noises like trains, steamship whistles, and machine guns. During the lunch period, the boys stand in the lunch queue talking quietly, while the girls are pushing, jostling and punching one another. After lunch, on the playground, the girls have rushed out to engage in various forms of activity and tests of physical strength and skill designed to identify their position in a loosely arranged dominance order. Meanwhile, the boys are playing jacks, jumping rope, and talking to one another.

In the classroom teachers complain that Cynthia, Joanna and Susan can never sit still and constantly disrupt the class by crawling in and out among the desks, while they praise Billy, Harry and Tom who score 100% on every spelling test and read at least five new books a week. These boys and many others write excessively lengthy essays and poems, spawning pages and pages of script, while the girls, who always write about war or football, rarely fill a page.

2. WEAKNESSES OF EXCLUSIVELY CULTURAL EXPLANATIONS

These examples are sufficient to anyone who has raised children in indicating that these outcomes would be impossible, and they serve to illustrate that an exclusively cultural hypothesis is a nonsense in explaining differences between individuals. It illustrates further the curious fact that psychologists and sociologists often become so engrossed in experimentation or theorizing, that they fail to notice how far they have lost contact with the real world around them. Any parent with two or more children knows how different children can be, and how pervasive and unchangeable are temperamental predispositions.

The fact that certain temperamental characteristics are largely inborn has been verified by a longitudinal study carried out by Thomas and his colleagues in New York (Thomas et al 1969). After carefully classifying about ten consistent temperamental predis-

positions in the young infant, they were able to follow each child in a sample of about 150 children, through into their late teens. The important findings were these:

1. Basic temperamental characteristics (such as predispositions to slow activity levels, fear of novelty, amiable passivity, etc.) do not alter with time, though the form of their expression may differ somewhat.

2. The parental handling interacting with temperament was crucial for the healthy psychological development of the child. For example, a child with a slow tempo becomes acutely distressed when rushed or pressed. A sunny natured inactive child is often taken advantage of and too frequently left alone or ignored.

We know that males and females are *different*, not only physically but in disposition and in intellectual capacities. The attitude that we can somehow attribute all non-physical differences to the environment, and only physical differences to genetics, implies that we advocate a Cartesian mind-body dualism which is quite untenable given our present understanding of neural function and development. Each individual is a composite of genetic potential and his or her experience acting upon that potential. In analyzing why and how the sexes differ, we need to understand first what the genetic potentials may be, and then in what way society might act to enhance or maim certain fundamental abilities.

3. A CASE FOR A SYNTHESISED APPROACH

Until quite recently the study of sex differences floundered between an extreme cultural explanation, based on role-playing and differential reinforcement, and an equally extreme bio-deterministic position in which all advanced intellectual functions were presumed to be pre-wired into the brain. It has long been known that extreme positions have never been successful in understanding the development of individual differences, and it may be that the prejudice or emotionality which is so often sparked by discussion on sex differences has led to such entrenched dogmatism. There is no reason to assume that the study of sex differences requires a totally different explanatory principle than the study of any other human differences such as age, personality or race.

4. FUNDAMENTAL SENSORY DIFFERENCES

Due to this situation, in my own approach to the problem, it seemed of paramount importance to establish differences between the sexes in some psychological process which could in no conceivable way be attributable to the environment. If this could be demonstrated then we would have a definite scientific basis from which to begin to assess the total problem. We know that females excel in linguistic skills, but language consists of so many complex processes ranging from perception and memory to production, that it is difficult to disentangle these components, much less determine the environmental or genetic contributions of each and their interaction. The same problem applies to the area of spatial-mechanical skills in which males are known to be superior.

However, if certain fundamental sensory differences could be demonstrated, this might provide a clue as to how perceptual systems are biased to pick up certain types of information from the environment. Furthermore, if these sensory differences were found to exist in the adult and be unaffected by environmental effects, then both cultural and maturational explanations could be ruled out.

Many of these initial studies are now complete (McGuinness, 1972; 1973; unpublished data) and have produced the following results: Females are more sensitive than males to auditory stimuli. Using pure tones, it was found that females had lower thresholds to high frequency sounds, and much more critical, to have a far greater sensitivity to volume. Using a technique which eliminated artifacts add to personality or anxiety, women were found to set a comfortable loudness level significantly below that of men across the entire frequency range. In practice this finding means that when a hi-fi or television is set to fairly loud levels (80-85 db), women will hear the sound as phenomenally twice as loud as the men. Women were also sound to be less tolerant of repeating auditory signals, such as a ticking clock.

The argument that this difference is due to the males somehow being subjected to a noisier environment is not borne out either by the sample used, nor by the following data. A comparable series of studies on visual perception was carried out with these results: In photopic (daylight) vision, men were found to have significantly greater visual acuity. In particular, they could identify a visual stimulus at greater distances than women and were also found to have

less gross visual deficiencies. They were also considerably more sensitive to light, as tested in a similar way to the loudness test discussed above. This finding casts doubt on the "noisy environment" hypothesis to explain male insensitivity to loudness, as any such theory would have to postulate the impossible situation of a noisy but dimly lit environment for males, but a quiet, brightly lit one for females.

In contrast to these data, women were significantly more sensitive in scotopic (dark) vision, producing lower visual thresholds and retaining a longer visual image in the dark. The after-image differences was absent in the light.

5. DISCUSSION

Two points of relevance arise from these data. The first is that these experiments demonstrate that there are genuine and reliable differences in central neural organization between men and women. Various controls were conducted in conjunction with these experiments which indicated that the environment was ineffective in altering basic sensory processes such as judgement of intensity and threshold. For example, while musical training showed a marked effect on a pitch judgement task (where incidentally no sex differences were found), this training had *no* effect whatsoever on the other auditory tasks.

The second point deals with the fact that no study on infants, children, adults, or the elderly comparable to these data has contradicted the findings. Female infants have been shown in a number of studies to be more sensitive to another infant's cry, to music, to voices and to verbal information with high inflection (variation in intensity) (Simner, 1971; Kagan and Lewis, 1965; Lewis, 1972; Watson, 1969). Female professional musicians have a significantly greater perception of dynamic changes (variation in intensity) than males, and this forms an important factor in their musical aptitude (Shuter, 1968). This factor is absent as contributing to the attributes in the male musician.

Male infants respond to visual input characterized by its detectable brightness contracts, boundaries, edges, and its three-dimensional aspects (Myers and Cantor, 1967; McCall and Kagan, 1970; Pancratz and Cohen, 1970; Cornell and Strauss, 1973) showing that males are more attentive to visual input which is three-dimensional, angular, geometric, and brightly lit. That this is not due to differences in the development of the visual system is demonstrated by the finding

(Fagan, 1972) that females can recognize photographs of different faces by 4-5 months of age, while males are unsuccessful at this task. Various studies now confirm that the female is especially attentive to facial cues, either realistic or pictorial (Kagan and Lewis, 1965; Lewis et al, 1966; Lewis 1969; Fagan 1972).

Throughout the scattered literature on differences between the sexes in response characteristics (Moss, 1967; Smith and Connally, 1972), in sensory capacity, in attention biases, and in social and intellectual aptitude (see McGuinness, 1975 for review), a clear picture begins to emerge of the qualitative link between the differences found at all ages. One can best characterise the fundamental difference between the sexes as due to the manipulative, restructuring and active predisposition of the male, and the communicative-social predisposition of the female. It does appear in most instances, though there are exceptions, that society caters to these differences rather than opposing them.

If one accepts that the psychological literature is valid, and that the emerging picture of sex differences leads to a logically tenable interprepration, then two critical questions ensue: First, what are the antecedents of these differences, and second, what do they imply for education and for society ?

6. ANTECEDENTS OF THESE SENSORY DIFFERENCES

In my own view the development of psychological differences between the sexes is attributable to certain basic perceptual-motor associations. In the male, information about the environment is received directly. One could describe this as *first-hand* information. Because of the male's greater gross activity levels, his attraction to objects, and his inclination to act out upon them by examining their internal and external structure, the male gradually learns about the relationship between his motor processes and the properties of the world. The double feed-back system sets into operation an associative bond between his image of action and the visual image which corresponds to it. An associative mechanism incorporating visual-spatial-motor aspects is highly suited to internalizing the three-dimensional aspects of the physical environment. This contributes to the male's superior mechanical, and visual-spatial skills which are of profound importance in abstract mathematical ability such as geometry, in engineering and in architecture.

The female learns about her environment largely at *second-hand*, in

communication with people. The perceptual-motor association is one of vocal-visual feed-back in which language and the visual correlates of vocal expression – *faces*, are integrated into the ability to produce accurate verbalizations and to perceive the emotional and connotative implications of the speech and facial expressiveness of others. It appears from the data that accurate auditory analysis of cues of inflection, and acoustic detail in speech, are critical in this process.

A further important associative link is found in females skills in which her greater tactile sensitivity is incorporated into the ability to exhibit a high control over discreet digital coordination. This ability is exemplified in tasks of handwork, writing, typing, musical performance, and so forth (Garai and Scheinfeld, 1968; Hutt, 1972).

The data consistently force the conclusion that initial sensitivities, in particular to brightness, loudness, and cutaneous threshold, act as *biases* on the development of perceptual-cognitive structures. As each sex is attracted by different auditory, visual and tactile cues their attentional development will be differently affected. As they also possess different biases for motor output, gross muscle action for boys, discreet verbal and digital activity in girls, they will not only perceive differently, but gain different types of reinforcements or rewards for their actions. Thus it has been shown in infant studies that females are quieted by verbal (distal) stimulation while mothers more frequently have to pick up their young sons and play with them (proximal stimulation) (Moss, 1967; Lewis, 1972). Likewise, it has been found that while the male and female infant does not differ in the amount of vocalizations they produce, the female consistently directs her babbling towards socially relevant stimuli such as people, pictures of people and sounds of voices, while the male "talks" to everything indiscriminantly, including inanimate objects (Goldberg and Lewis, 1968; McCall, 1972; Messer and Lewis, 1972). Over time the female produces increasingly clearer and more accurate speech patterns, while also increasing her verbal interchange with others (Harms and Spiker, 1959; Hull et al, 1971).

7. IMPLICATIONS FOR SOCIETY

In dealing with the question of how these differences are to be handled by society, one is immediately confronted with a dilemma of values. Does one value the differences and perpetuate them, or does one select certain sex biased traits as valuable and endeavour to

inculcate these in the opposite sex ? Our capacity to regulate behaviour is of course affected by temperamental differences such as gross activity levels, and means of expressing aggression, but where skilled learning is involved the answer is not quite as dificult as it might appear. There is already an example available to us which suggests that the latter solution is the more profitable. Young males are consistently required to learn to speak clearly, to make their wishes known verbally, and to acquire adequate reading and writing skills. The success of this endeavour is so marked that by early teens the linguistic aptitude of most boys is not noticeably different to that of girls. That this effort is indeed *valuable* is witnessed by the findings that delinquent boys have low verbal skills (Taylor and Ounsted). This suggests that not only do delinquents seek attention because of their failure in school, but because they cannot *communicate* adequately with anyone.

In contrast to this, no such endeavour is expended by either parents or teachers to develop mechanical-spatial ability in girls. (Only in America have I heard of experimental classes in teaching visuo-spatial ability). This omission leads to several problems. First, while early skills in mathematics require largely symbolic memorial processes, served equally by linguistic competence, this is not true of higher mathematical ability. Here reasoning must be freed from its symbolic content, and the ability to form spatial images becomes relevant. Girls are notoriously poor in geometry, and a recent national survey conducted by Ross and Simpson (1971) found that girls actually *decline* in mathematical skills at ages 11-13, relative to their previous performance, while boys improve. This is but one example, and schools of architecture and engineering could perhaps provide others.

A second difficulty in ignoring mechanical training for girls is that it insures that she is hopelessly lost in the maze of our mechanical civilization. While constantly surrounded by labour-saving machines, the woman is often at a loss as to how to carry out the simplest repair. This fact reinforces the incompetence she already feels in the face of coping with an almost entirely male structured environment.

8. IMPLICATIONS FOR TEACHING

Understanding sex differences is also important in the practical aspect of teaching, as it is not only in perceptual-cognitive predispositions

that they differ, but perhaps more importantly, they *learn* differently. From the available data it seems absurd to attempt to teach boys to read by methods most suitable to girls. Females excel in the rapid processing of detail (printed letters) and in manual coordination (copying printed letters) while males learn by manipulation. While pondering on this problem (reading programmes *do* fail with boys) I learned of a project to teach reading by machine at Stanford University. Their data on sex differences showed that it had been eliminated by this approach, and children learned to read faster than in the classroom control group. Further investigation is obviously warranted to discover which method is best suited to females, but using mechanical aids greatly helps the males.

So far only the more traditional aspects of education have been considered, but a further value judgement is frequently implied by the silence of educators in an area which Guilford (1967) has described as *Behavioural Intelligence*. Guilford defines this as the capacity to perceive intent, to predict the behaviour of others, while being sensitive to the needs of others. Sensitivity to persons has long been established as a female trait, and it is in some measure a condemnation of our social system that the combination of analytic and emotional intelligence required in dealing with *people* forms no part of our educational training. Though teachers do consider the Golden Rule and discuss fair play, etc. this does not provide an appropriate context to effect any *understanding* at an intellectual level of the process of empathetic communication. Such an approach might incorporate training in distinguishing between tones of voice and facial expression, attention to past action and present statements, in short, a sharpening of one's awareness of people.

9. CONCLUSION

The value of this approach is that it leads to an independence of judgement, hence ability to resist persuasion, as well as to a more cooperative and sensitive outlook. A characteristic of the current militant movement is lip service to the brotherhood of man with total indifference and insensitivity to the rights of the individual, an ideology which more or less is a direct statement of the male tendency to stereotype or categorized people and social systems as he would objects and structures. That the female quality of viewing the individual as unique, of finding the grays in interpersonal situations,

is being severely undervalued, is witnessed by the fact that so many women are led blindly to espouse a cause which they had no part in creating and which reflects little in the way of their own intelligence and outlook.

The sexes are not equal; they are *different*. What must be made equal is the *value* placed upon these differences.

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EDUCATION AND SEX ROLES

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ABSTRACT

Psychological sex differences are partly innate, partly acquired. Interests, aptitudes and temperamental characteristics of the sexes overlap substantially; individual differences are more important in education than sex differences. A balanced approach is needed.

I. INTRODUCTION

THE overall problem is whether male and female differ psychologically sufficiently to necessitate different educations and if so, should they have different community roles? Within this problem is the battle fought by the Women's Liberation Movement against the Monstrous Regiment of Men. Their case is that the feminine sex has inadquate career opportunities, and in careers secures only an inferior position. Is this due to inferior physical and intellectual endowments and therefore inevitable? Is it due to the call to motherhood diminishing or supplanting the career urge, a state which changes in the expectations of society could modify? Is it due to the sex stereotyping by society? Or does it stem from our educational institutions?

The research on psychological sex differences is so enormous that in its consideration the basic fundamentals are sometimes overlooked. Yet these, by definition, offer the best guide to a solution.

2. PRINCIPLES

Men and women are alike in that they are parts of the human race; they are different in that they are complementary parts of that race. In every body cell the female has 23 pairs of chromosomes plus an XX pair, while the male has the same 23 plus an XY pair. It would be rash to assume that this fact has only physical aspects. In their abilities, emotions and even interests the two sexes have an innate basic similarity, but there appear to be superimposed innate dif-

ferences, sometimes accentuated by sex differences in child rearing, and society's expectations. Usually the interaction between innate and environmental forces is intricate and difficult to disentangle.

Men and women are bi-sexual insofar as they both secrete male and female sex hormones; the difference in the balance of these hormones produces the physical characteristics of masculinity and femininity. It would be naive to suppose that this influence stops there, rather does it have a profound influence on the emotions (Beach, 1948). Research shows that these hormones influence the brain (Hamburg, 1967). For example one of the principal female sex hormones, progresterone, in moderate doses acts as a sedative (Hamburg, 1965). A preponderance of androgen is responsible for the relative aggressiveness and unruliness of the male and the reverse for the comparative submission and obedience of the female. A large body of research indicates greater aggressiveness in the male of most species (Hebb, 1946, Seward, 1946). That the bull is master and defender of the herd while the cows peacefully graze and look after their offspring is an analogy which may infuriate members of Women's Liberation. It is not meant to be a denigration of woman-kind, however, for aggression can lead to disaster as well as to achievement. The facts – in this case the bulls – must none the less be faced, together with the queer Highland horned sheep which appears to belie this argument when we see her stamp her hooves, lower her horns and chase off the sheep dog – but though female she has also rudimentary male sex organs; the characteristic timidity of the sheep is removed. The same argument applies to the human race. Research has repeatedly found more aggression in pre-school and nursery boys than in girls (Muste, 1947, Terman, 1954). The greater strength of the male could also be involved.

This *average* aggressive-submissive apposition has far-reaching consequences. Theorising, one might see aggressiveness in the male leading to physical pursuits, physical crimes, the desire for dominance, creativity, and urge to exploration (cf. Anastasi, 1958). In education it may play a part in male untidiness, carelessness, truancy, rebelliousness, failure to do homework – yet also in the drive needed for success. The comparative submissiveness and shyness of the girl may be a factor in her more retiring and less physically active life, less desire for dominance, less inclination to accept posts of high responsibility – and the desire to have for husband a 'manly man' to whom she can look up. The less 'aggressive' behaviour could be

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partly responsible, indirectly, for the greater neatness and con-
scientiousness of the schoolgirl's written work. These differences
between the sexes in school work need to be recognised. Though we
may endeavour to improve the neatness and reduce the carelessness of
the boys, it would be folly to expect to make them as neat as the girls.
It would be even more foolish to expect to 'make' the boys as con-
scientious.

These innate temperamental differences may also be partly
responsible for the differences in academic aptitudes and interests,
though they are increased by society's customs. Here the research
which claims to have distinguished between the feminine and
masculine brains may be important. However, this work will need
confirmation and exploration before it can be of material help.

3. ACADEMIC INTERESTS, APTITUDES AND ACHIEVEMENT

The earlier maturity of young girls (itself surely partly innate)
linked with their greater fluency of verbalisation, help them to reach
a higher average score than boys in predominantly verbal written
tests of academic aptitude at the age of 11 (Anastasi, 1958). They do
appreciably better than boys in attainment tests in English and
roughly as well in the usual Arithmetic tests (Dutch and McCall,
1974) (girls being better in most mechanical processes and boys in
problem work) (Terman, 1954). In some areas these differences cause
an amusing preponderance of girls in secondary grammar schools –
amusing because the boys rapidly improve in relation to the girls
while at the secondary school (as assessed by examinations). Equalisa-
tion of the entry by sex, as practised in some areas, is better; transfer
to comprehensive schools removes the difficulty.

At the secondary level the female average superiority in language
tends to continue, certainly until age 16, while the male superiority
in problem arithmetic spreads throughout mathematics as it becomes
more advanced, and also affects the mathematical sciences. Girls tend
to do well in natural science with its demands at this stage for
description, memorisation and neat, accurate diagrams. Even within
subjects, such as geography, the same difference in achievement
occurs; girls are better at descriptive geography and boys in physical
geography, contours, map construction and map reading.

These differences in achievement seem to the writer to stem first
from probably innate *average* sex differences in aptitudes, increased

by innate sex differences in interests. Though this may be impossible to prove it is equally impossible to disprove, and the balance of the evidence – if viewed apart from the emotions the topic engenders – seems to be on the side of the innate hypothesis. Undoubtedly, however, the differences in achievement are accentuated by the girls' desire to read rather than to indulge in physical games, and by the delight of boys in problem solving, especially where numbers and spatial factors are involved (cf. Maccoby, 1967). Success breeds interest and interest aids success; failure the reverse. Girls take readily to subjects which involve people (Terman, 1954), plants and animals; boys, while not being uninterested in these fields, are keenly interested in subjects involving the inanimate world of things (e.g. the mechanical), ideas and mathematics. Part of girls' dislikes of mathematics comes from their comparative timidity; they face less well the constant test situation of the oral mathematics lesson and feel failure in public more keenly than the boys, who often laugh if off. They feel more deeply the derision or wrath of the teacher. Research on teachers 'who had a distinctly bad influence' elicited these comments from girls: 'My first maths Mistress. She had bright red fingernails and shouted when I went wrong'. 'He gave me an inferiority complex where maths was concerned, which effect I felt for many years', and, 'This teacher had a frightening temper and I have missed the chance of a basic knowledge of maths. Also I now hate a subject which all my family are brilliant in, and I feel I should have been.' (Dale, 1969, pp. 150-151, and 1974, ch. 5, etc.).

Independently of the teachers' influence the girls' dislike is strong, and all subjects with a substantial mathematical content are affected, both in school and university; physics is an example. Characteristic comments from girls were: 'I hate physics: it is boring and useless'. 'The complicated equations get me down'. 'I hated it'. 'Took it for one year and dropped it as fast as I could.' I don't take it now, but the thought of it makes me sick.' 'No interest and I was made to take it – I hate it.' (Dale, 1974, pp. 162-5).

Such a deep dislike, permeating a number of subjects, can scarcely be explained merely as 'an acquired taste'. Yet the different upbringing of the two sexes, the divergent expectations of adults, and the pressures in school of the majority opinion among each sex, certainly help to produce the prevalent polarization of attitude by sex. Some writers over-stretch this theme, arguing, for example, that adults' choice of children's toys is sex-linked by custom – yet children

choose many themselves, and also decide at an early age which they prefer. If also a girl finds mathematics and physics easy she will like them and continue to take these "boys' subjects", despite majority opinion. On the other hand, among girls less talented in science or even among talented all-rounders, there will be some 'science casualties'.

Casualties also arise in another way. For years the percentage of girls taking mathematics and physics from girls' schools, at the 'Ordinary Level' stage, has been lower than that among co-educated girls. This arises from a policy in girls' schools of either allowing or advising girls who are not good at these subjects to drop them, often quite early. For physics, it is true, general science is often substituted in girls' schools and girls do much prefer it. However, the choice of general science may prevent a girl from entering a scientific career. The relevant question is 'Which percentage of girl scientists is better, that of the girl's schools or that of the co-educational?'

It might be thought that one way of reducing the sex polarization of attitude would be to increase the number of co-educational schools, but the evidence is inadequate. Some evidence of *increased* polarization (by attitude) in co-educational schools is found but may be due to their rather lower average intelligence level– the science subjects needing a somewhat higher 'academic aptitude' for success than the arts. Another factor is the comparative selectivity of the groups. (Dale, 1974, ch. 10 and 11). At the Advanced Level, certainly, the claim made that the girls' schools enter more girls for science than do the coeducational is misleading because, first, the old established girls' schools have a much larger reservoir of the highly intelligent and this markedly improves their chances of providing science candidates; second, their girls are of higher social class, therefore a greater percentage continue in the Sixth Form.

Returning to achievement, however, *attainment* in mathematics might be improved by making more schools co-educational (Dale, 1974, ch. 3). This applies both to boys and to girls. A second way, implied earlier, would be to convince mathematical teachers in training that a pleasant approach to the teaching of the subject is essential for success. It would help to increase the percentage of girls taking the subject and help them to succeed in scientific and other careers.

Readers may now be thinking, 'Surely these sex differences in average achievement and interest necessitate educating boys and girls separately?' There are several reasons why this is not so. First, the

similarities of the interests of male and female, as human beings, vastly outweigh the effects of the differences in their interests as male and female; second, the differences between them in average attainment in the various subjects represent only a small fraction of total performance. Third, if in one or two subjects, such as physics and mathematics, at say age 13, the proportion of girls disliking or even detesting the subject becomes too great, pupils are allowed to drop them. This policy is used less in co-educational than in girls' schools. Among boys there is a tendency to drop languages. These trends are so strong that although they might be diminished by changes in environmental influences they will inevitably persist, and it would be wrong to force children to take for years subjects they hated. A better approach is to change the 'spirit' of the teaching, as mentioned before, and to discuss the problem with girls individually, indicating the number of careers closed or nearly closed to a girl with no qualifications in mathematics. Incidentally, universities need to provide degree courses in subjects such as the natural sciences suitable for non-mathematically minded students. Many a potentially good botany student has withdrawn through inability to pass a highly mathematical subsidiary chemistry course.

The considerable overlap between the sexes in both interest and achievement in the various subjects is usually a dominant factor. When teaching a mixed class, the diversity of individual interests and abilities tends to reduce markedly any difficulties due to sex differences. Moreover, as the didactic method of teaching becomes less important or individual learning more so, it becomes easier to cater for the diversity of population. The unstreaming of classes will have a similar (though more decided) effect.

In advocating reform emphasis should be placed not on the two sexes following the same courses and taking up the same careers, but on enabling each *pupil* to make the best use of his or her individual abilities, and on providing the facilities and catering for the range of individual academic interests and future careers. In a single-sex school it is difficult to supply the required range of facilities. Boys should take cookery if they wish and girls woodwork, metalwork and car maintenance. A year's course on running a home could be enjoyed by both sexes, with both doing almost all the multifarious household jobs. In a world where more and more wives are in employment such courses are a necessity – and already exist here and there.

4. SOCIAL

Education is not only about academic achievement; pupils are unconsciously acquiring social skills and attitudes, and are affected emotionally by their various experiences. In a co-educational school they are, by working with the opposite sex in the classroom and sharing in hobbies, drama and choir, learning the attitudes, characteristic behaviour, skills, strength and weaknesses of the opposite sex. Separating them into single-sex schools tends to make attitudes and behaviour more extreme and to accentuate the undesirable traits of each sex.

For example, the boys tend to be too boisterous and unruly, with a decided increase in bullying (Dale, 1971, ch. 6), while the girls are more 'catty' (their own words), petty, and unpleasant cliques are more frequent. (Ibid, ch. 12). Attitudes to the opposite sex are much more extreme, single-sex educated boys and girls having a more romanticised view of the opposite sex. 'The boys seemed more glamorous when we had no contact with them.' Ex-pupils who had attended both types of school believed strongly that attitude to sex was more unhealthy and less balanced in their single-sex school (Ibid, ch. 14). That single-sex schools tended to stereotype the sex roles is also seen in the attitude of both sexes to working with the opposite sex after leaving school (Ibid, ch. 16).

5. CONCLUSION

There is certainly some need for greater equality between the sexes in education and a great need for it in employment and careers. In all reforming movements, however, there is a tendency to go to extremes, to make wild claims, and to jump on the band wagon of a popular movement. There are enough justifiable grounds for complaint to make it unnecessary to lower one's standards by including the unjustifiable. In schools girls are rarely treated with a deliberate lack of equality – except in two ways, which are linked. For coeducational schools to work well there should be an approximate equality in the numbers of men and women teachers. In many schools the women are a minority and in more than a few cases a decided minority. This inevitably causes the female staff to be in an inferior position, especially from the point of view of the girls. Though the Head and male staff may not perceive the inequality it is perpetually

there. Further, the Head is almost always a man, and the Senior Master in not a few schools is second in command, with the Senior Mistress *third*. This is a much more blatant denial of the principle of equality. The Senior Mistress should have the title of Headmistress, with an automatic seat on the Board of Governors, and should be never lower than second in command. Male and female students should also be balanced.

In many articles on 'Women's Liberation' there is a confusion between *equality* and *similarity*. What is needed is not a campaign to make men and women similar, or even to get them into the same careers. It should seek to afford equal opportunities to male and female in both education and career – according to their abilities, interests and wishes, regardless of sex unless the job necessarily confines it to one sex.

This concluding paragraph strikes a controversial note. Women are inclined to refuse posts of responsibility, and also to state categorically that they prefer working under a man (Dale 1971, p. 240). Changes in social ideas may improve these attitudes but in the writer's *opinion* some substantial difference will always remain, because, as noted earlier, the relevant innate psychology of the sexes is different – man is the aggressive sex. Maybe nature intended man to be the leader and women to provide the stability. However, the overlap between the sexes in psychological attributes ensures that there will always be some women leaders; there should certainly be many more than at present.

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BOOK REVIEWS

AIDAN CHAMBERS, *Introducing Books to Children* (Heinemann Educational Books 1973. £0.90)

PETER HOLLINDALE, *Choosing Books for Children* (Paul Elek 1974. £2.40)

ISABELLE JAN, *On Children's Literature* (Allen Lane 1973. £2.50)

THE first two works are up-to-date and valuable handbooks for readers who want information and guidance in the enormous field of children's books. Aidan Chambers writes mainly for teachers—especially beginners: Peter Hollindale speaks to "parents and teachers", and his would certainly be the more useful book to parents. In Mr Chambers' book there is a great deal of specific advice and reference on such matters as how to introduce books to children in school, how to start and run a bookshop, and how to get authors to talk with children. He is properly critical of those who insist on close study of texts with children who have not yet found the pleasure of reading.

Mr Hollindale selects a number of authors for quite detailed review—and has his reservations about several of them. He also recommends some relatively little known names, such as Helen Cresswell and Mollie Hunter. Both writers give some attention to the Blyton phenomenon, and take a less hostile view than was the fashion, say, ten years ago. Both argue cogently their case for children doing a good deal of reading, though their arguments are by no means identical.

Professor Jan's long essay is a different matter. It is by no means a beginner's handbook, but demands a wide previous knowledge of children's books. Her own reading has been encyclopaedic and in many languages. She sets out to explore the essential characteristics of good books for children, and at the same time to justify her topic (and her title) against any claim that it does not deserve such scholarly treatment. The latter objective is achieved incidentally by the skill and detailed reference with which she succeeds in the former. Among the views she puts forward are that children—as readers—are unlikely to be satisfied with children—as characters—who are not at risk, unthreatened, and who never grow up; that folk tale and legend are of vital importance; that "if the folk tale satisfies a basic psychological need—freedom, wish-fulfilment—the legend integrates the child with his society", and that while much of the best in international children's literature derives from folklore, this is not necessarily the case in Britain (and there follow most perceptive critiques

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of Lear and Carroll in particular). The central thesis of the book, supported by studies of, among others, Andersen, E. Nesbit, Kipling, Madame de Ségur and Jules Verne, concerns "the essentially symbolic nature of all really important children's stories." Around this view the author develops the critical coherence which distinguishes this essay from most other studies of children's literature up to the present day.

W. D. EMRYS EVANS

SOCIAL EDUCATION: AN EXPERIMENT IN FOUR SECONDARY SCHOOLS (SCHOOLS COUNCIL WORKING PAPER 51) (Evans/Methuen £1.50)

THE problems of schooling are complex and as a result, any attempt to explore different approaches to teaching and learning is likely to involve oversimplifications and overgeneralisations. This experiment contains too many for comfort.

The emphasis in the project appears to be on personal and social problems. The selection out and overemphasis on such problems or on controversial issues involves a marked distortion. It ignores the possibilities in non-controversial issues and it may encourage a certain morbidity or sensationalist approach to content typical of tabloid journalism. I take the social studies area of the curriculum to have as its legitimate concern, an *approach* rather than a specific content—the approach of challenging the assertive and emotive tendencies of common-sense or folk reasoning about social behaviour whether the content be a problem, an experience, controversial issue or a taken-for-granted aspect of behaviour.

It is possible to see elements of an orthodoxy in this project. Rather than see teaching and learning as appropriate selections from a repetoire of techniques, the stress is on socio-drama, profiles and a set role definition for the teacher: "The proper teacher-pupil relationship is for the teacher to be adviser and experienced colleague and not a mere dispenser of knowledge or arbiter of values." (P.111) This is close to prescribing a One Right Way of doing things.

Another sign of an orthodoxy is if it has a set definition of an ideal human being. The ideal human here appears to be a participator: ". . . the individual is charmed and pressured into active participation in group activities" (P.10). The writers refer enthusiastically to the participation of citizens in a Greek city state as ideal. Yet some may wish to be otherwise—is their choice to be refused? The geographically mobile, or the occupationally mobile, or the individualist may have other priorities of personal action.

Further difficulties are raised by the ambiguity of the central ideas of social education and community. The definitions and aims of social education were so numerous, I ceased to note them down eventually. They included: attempting to reduce feelings of isolation and manipulation by agencies, (P.7) teach awareness of surroundings and sensitivity to problems, (P.8) provide an adequate curriculum for social living. (P.8) the study of community problems, (P.8) promoting self-reliance and self-direction, (P.17) promote responsibility and involvement, (P.18) and, an exercise in applied democracy. (P.18).

A central feature appears to be 'the community' as a source of problems, experiences, activities and investigations yet this term is highly ambiguous. In the project it most frequently appears to mean a local community, whether of housing, local government, geographical, cultural or political, is never clear. Since we are members of various communities, local, regional, national, international to name but a few, this would seem to be a rather parochial approach. Nathaniel Hawthorne has described the dangers of such an approach in these words: "The peculiar marks of a semi-barbarous people are diffused distrust and indiscriminate suspicion. People in all but the most favoured time and places are rooted to the places where they were born, think the thoughts of those places, can endure no other thoughts." Such an approach can so easily reinforce ethnocentric valuations of culture and since the nationalistic belief that ones own country is superior in all respects to all others and inevitably worth preserving, is a flattering belief, it is easily absorbed and all too easily reinforced.

On the positive side, teachers who have developed a more coherent and consistent philosophy of education than the project offers, may gain a number of useful ideas for teaching and learning approaches. The use of socio-drama is described with some interesting practical examples. (P19). The investigation of groups within first hand experience of children, by the means of profiles is well documented. (P.24 and P.131) An approach to surveys is discussed. (P.33 and P.97)

A helpful analysis of the problems of children who have been 'turned off' learning is given. "Their self-confidence had already been sapped and their willingness to display initiative in the school setting had been drained by their previous failure." (P.19) Socio-drama is discussed in some. detail as a way of tackling this problem. ((Photoplay and Town Trails are other approaches but these are not mentioned in the project).

The writers hoped that "this report may well be the most useful contribution to appear so far in this important field." I found that it contributed something though not as much as other writings (e.g. Streetwork) or other projects (e.g. the Understanding Industrial Society Project) and perhaps not as much as the writers hoped.

ROLAND MEIGHAN

Roger Brown, *A First Language: the Early Stages* (George Allen & Unwin Ltd., 1973, £5.95).

Neither textbook nor treatise—the field of enquiry is too young to issue in either—Brown's book exudes a sense of the present continuous. *A First Language* reports on progress made since 1962 in the lively tradition of studies at Harvard University of the emerging grammatical competence of Adam, Eve and Sarah in their pre-school years. Only two early stages of grammatical development are treated, the two periods corresponding roughly to the two-word stage of so-called telegraphic speech, and the subsequent stage when the first grammatical morphemes (inflections for tense, number, the copula, etc.) appear. No attention is given to the earliest communicative behaviour, nor to phonological development. Rather, Brown wants to characterise explicitly the child's grammatical-semantic knowledge so as to account for early, spontaneously-uttered sentences, and to explain the developmental schedule thereof.

The book is organised around two long sections, corresponding to the above stages. 'An Unbuttoned Introduction' offers an informal sketch of the target linguistic skills Brown will deal with, and some speculation on the linguistic capacity demonstrated to date by the chimps Sarah and Washoe. Stage I then explores several approaches to the explicit representation of what is claimed to be the short list of 'semantic roles and grammatical relations', the constructional meanings gradually available to all children studied to date. Data, mostly naturalistic, but some experimental, is adduced from the Harvard project and other American work, along with a nice range of cross-linguistic data where samples permit comparison. Brown concludes by asking why this particular list of constructional meanings should appear to account for such a wide range of data, appealing to Piagetian thinking for tentative answers, and shedding light on the question of innateness of human linguistic capacity into the bargain. Along the way, he offers one of the first cogent explanations of the telegraphic appearance of the first sentences, and dismisses non-semantic 'pivot' grammars as descriptions, let alone explanations, of child speech. Stage II of the book tests a version of Slobin's hypothesis about developmental universals against a similarly wide range of data on the emergence of grammatical morphemes, *viz.*, that 'order of development, conceived in the right abstract terms is invariant across both children and languages and is primarily determined by the relative semantic and grammatical complexity of constructions' (p. 59). Alternative views on the strength of such developmentally-determining variables as frequency of forms in the child's input, and parental shaping are fairly considered and found wanting in a number of important respects.

Brown has tackled an enormously complex job, making sense as he does of what, after all, are mainly uncontrolled naturalistic studies, and it is to

his credit that the volume shows such a high degree of conceptual unity. The attendant cost is that despite its having been written for non-linguist, the book cannot readily be consulted for discrete information on a single topic, one argument usually turning out to be contingent on another. The cost is trivial, for *A First Language* sets the standard in authoritative yet imaginative interpretation of the current research paradigm in child language studies.

K. F. REEDER

ERNEST CHOAT (ed.), *Preschool and Primary Mathematics* (Ward Lock Educational, 1973, £2.50 cloth, £1.35 paper).

THIS is a collection of papers written for the Working Group on Primary Mathematics at the International Congress on Mathematical Education held at Exeter in 1972. As often happens in these cases the quality, as well as the contents, varies a great deal but there are four articles of some importance.

Mary Sime, in her article "Implications of the work of Piaget in the training of students to teach primary mathematics", suggests that students require not only a knowledge of Piagetian theory but also practical experience of testing children in classroom conditions. She argues that, besides the more obvious diagnostic value of tests, they have a teaching value not only to the child but also to the nonmathematical student. At times she tends to overstate her case trying, for instance, to relate moral judgement to mathematical proof, but the examples of actual happenings in the classroom bring us back to earth and it is nice to see it clearly stated that " . . . no answer is wrong unless the child's reasoning is wrong. Responses need not be verbal". (p. 94).

Hassler Whitney's paper "Are we off the track?" could be interpreted as expressing an opposing view. He believes that in recent developments there has been too much emphasis on subject matter and concepts to the disregard of the child. Modern mathematics often tends to overcomplicate and in the desire to be precise and exact the teacher forces the child to use a language which is not natural to him. The adult tries to explain concepts by reference to drawings and representations but these are *our* models not those of the child. The danger, as I see it, it is that the child, not appreicating the relevance of the adult model, may be reduced to the level of rote learning—'to solve this sort of problem I must always draw this sort of diagram, but I don't know why'.

Whitney attacks the setting up of behavioural objectives ("We drop the child, and only measure what he does"), the so-called "individual" approach which meerly means that the children are on different pages of the

same scheme, the "score sheets with innumerable 'concepts learned, checked off to satisfy the parents" and the "ogre of testing" (p. 21). A valuable and thought-provoking paper designed to shatter any complacency in primary mathematics.

Derek Wheatley's article on mathematics in the junior school supports, at the grass roots level, Whitney's criticisms. He feels that since the abolition of the 11 + maths. paper many schools have lost their way. The main reasons for this are the primary teachers' lack of knowledge of modern mathematics and the problems of classroom organisation. He gives a realistic picture of the situation and suggests some basic guidelines to overcome the difficulties.

Ernest Choat writes about the problems of the disadvantaged child, pointing out their lack of preschool mathematical experience, and he stresses that the child's low achievement is often due to the teacher's low expectations. The paper states nothing new but it is valuable in that it gives references to numerous other works.

The remaining papers are of lesser importance. Those on nursery and infant mathematics cover the usual ground and, being brief, are rather superficial. The book also contains reports on two British projects. The international flavour is given by an article on Japanese primary mathematics (which seems to have a philosophy similar to that of the British) and innovations in content from Hungary and France. Besides Whitney's contribution there are two other papers from the United States, both reports of projects. All in 107 pages!

There is little of practical value for teachers in the book, though the four key articles may be of interest to mathematics advisers and College of Education lecturers. However the papers of Whitney and Sime have already been published in the Congress Proceedings *Developments in Mathematical Education* (Ed. A. G. Howson, C.U.P.), together with numerous other papers of interest to those involved in mathematical education.

<div align="right">D. J. WINTERIDGE</div>

MICHAEL LOCKE, *Power and Politics in the School System: A Guidebook* (Routledge & Kegan Paul, 1974, £3.00 cloth, £1.50 paper).

I APPROACHED this book with relish. In the first place it describes itself as 'A Guidebook'. "Hullo" I thought, "a further addition to the weaponry with which middle-class parents selfishly manipulate the education system for their own ends" and I waded in to see what I could learn against the day when my children are older and I have to start manipulating in earnest. The fly-leaf had already informed me that the author was a journalist and I therefore anticipated there would be no long words or heavy jargon to impede my enjoyment, for journalists are supposed to be pretty superficial.

And I was not disappointed. That is to say it *was* enjoyable reading

and I *shall* be a more informed, if still selfish, manipulator when the time comes. But the book is more than just an easily read compendium of facts and it is certainly not superficial. At the same time, because it is a serious book, I cannot wholly suspend criticism.

The author shares with me a firm conviction that despite all the attempts of schools, colleges, education officers and ministers to pretend otherwise, the education system is essentially an aspect of the political process. Where we differ is in our definition of politics.

In my view, whether schools are seen as agents of society integrating children into a shared value system or as tools of the ruling class reproducing the conditions for capitalist exploitation, they are a crucial factor in the maintenance of social order and thus constitute an intensely political phenomenon. On this definition politics is the means of maintaining stability and legitimating the state.

Mr. Locke subscribes to a narrower version of politics. He does not ignore the wider perspective, e.g. " . . . opinions about education and decisions made as a consequence of them are opinions and decisions about the naure of society . . ." But despite further similar references Mr. Locke does not summon up the courage to explore this relationship further. Instead he operates with a less ambitious perspective—" . . . those who seek to exert influence, individually or in organisations, are involved in politics." Within the limits of this perspective he has done a very good job, particularly as so few studies of education operate with any political perspective at all.

Part one is a guide to the interest groups found in the educational world. Parties, government, local authorities, churches, unions, pressure groups, headteachers, teachers, parents, pupils—all are described without any nonsense as to their formal position in the system, for Locke's system is a conflict system in which the contrived consensus, so often mistaken for reality, is exposed as myth. Part two is a lively but temperate romp through the ideas and controversies found in the system—equality of opportunity, raising the leaving age, deschooling etc. Part three discusses democracy in schools and is both repetitious and naive; in fact it illustrates very well where you are likely to end if you use the limited definition of politics which Locke settles for in this book.

Nevertheless, the strength of the book is that, unlike some other guides to the school system, it does not portray education in a static way unconnected with political controversy and social change. For student teachers especially, shielded as they so often are from the political realities of schools and the education system, this is a valuable introduction to their studies. And with any luck, by the time they have children at school there will be no need for manipulation (now who is being naive!).

CHRIS BROWN

Cultural Studies. 5. Women in Sport. (Centre for Contemporary Cultural Studies)

WPCS 5 presents a wide range of topics including leisure. life style and literary and intellectual production. It is significant that this diversity should be presented through styles and techniques varying from open discussion and taped interviews to more formal academic disciplines.

In this respect the extract from the discussion following the first paper on "Women in Sport" demonstrates the attitudes of some sportswomen at first hand. Charles Critcher's perceptive and clearly stated analysis on women in sport in our society would seem to merit a wider discussion than the narrow field of top class performers and a closer look at the run of the mill people who "do it for fun" might have proved more productive. In the second paper Paul Willis suggests that "to know more exactly why it is that women can muster only 90% of a man's strength cannot help us to comprehend, explain or change the massive feeling in our society that a woman has no business flexing her muscles anyway.' With this broadside Mr Willis calls for a critical qualitative approach and through a development of this theme he traces the ideologies of the nuclear family, the exploitation of women and differentiated sex roles. He convincingly draws the conclusion that "no matter how the actual physical gap is closed, there is an equal and opposite reaction which expands the cultural and ideological resonance of that gap". It is questionable however whether his final suggestion that "sport could be presented as an activity which isn't competitive and measured" would commend itself to sportswomen in a highly competitive society.

There is a parallel in the following article by Stanley Cohen in which he suggests that "Adolescence itself is a creation of Industralised Society and attribution to it of problem status sometimes tells us more about the society than the problem." In discussing the life styles of a particular sub-cultural group, he attacks the gross over-generalisation about the Youth Scene. Again in the history of a working class Methodist Chapel researched by Trevor Blackwell we see in the gradual decline of the chapel a reflection of the problem of the adolescent group in their alientation from the society in which they live.

The remaining two papers look at literary production through biography and the juxtaposition of the essays of Lawrence and Weber indicates some important cultural and biographical continuities between these two writers. Frederic Jameson's use of psycho-structural reading of the work of Weber is challenging and the critical comments following this article, although stringent, suggest that it deserves reading three times (forgetting for a month and then re-reading.)

<div align="right">C. ROBERTS.</div>

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